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The Massachusetts Medical Society

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The Massachusetts Medical Society

THE OBJECTIVES OF MEDICAL PROGRESS*

BY LINCOLN DAVIS, M.D.†

IT is well for doctors as for all mankind to pause occasionally in their pursuits and meditate upon the achievements of the past, the trends of the present, and aims for the future. It was doubtless with this purpose in mind that the founders of the Massachusetts Medical Society set apart an hour at each yearly meeting for an Annual Discourse. In attempting to prepare myself for the honorable duty which devolves upon me to-day, it has been a source of pleasure and instruction to review the discourses delivered before this Society from the first dissertation of 1804 down to the present time. Some of these addresses have been of a technical nature which, with the passing of the years and the advance of medical science, are valuable chiefly from an historical point of view; others, concerned with the broader aspects of the medical profession in relation to the community, are as vital to-day as at the time of delivery. In reviewing this mass of medical literature one cannot fail to be impressed with the wisdom, intelligence, and high character of the men who have represented the medical profession in Massachusetts. Some of these addresses have stood out as landmarks in the history of medicine, notably the Discourse on "Self-Limited Diseases" by Jacob Bigelow in 1835.

In 1860 Oliver Wendell Holmes' famous discourse "Currents and Counter-Currents in Medical Science" contained the oft-quoted passage consigning the materia medica to the bottom of the sea, in a biting satire against the prevailing overmedication of that day. The sensation which this caused is attested in the passage of a resolution by the Society shortly afterwards disclaiming responsibility for all past and future annual addresses.

A frequent subject of heated discussion in the past has concerned the inroads upon the regular profession by various irregular systems. To those who are to-day greatly disturbed by the recent activities of the chiropractors, I would commend the reading of Dr. Edward Reynolds' and Dr. John Ware's discourses of nearly one hundred years ago. Dr. Reynolds said, "It would not be an unreasonable expectation that the extension of medical light to the community should abate the prevalence of medical folly, except for the fact that the fountains of human credulity, flowing on in undiminished fullness for six thousand years, are evidently inexhaustible."

That the dangers of too much leisure were appreciated nearly a century prior to the New Deal is shown by the warning of Dr. George C. Shattuck in the Discourse of 1828. He said, "Increased luxury, diminished industry and the undue use of intoxicating liquors are impoverishing the fortunes, ruining the characters and destroying the lives of the immoral devotees to idleness and appetite."

Dr. John Homans, in his Discourse of 1844 on the "Character and Qualifications of the Good Physician", emphasized a quality which he himself possessed to a conspicuous degree and has handed down to his descendants of to-day. He said, "Integrity is the great principle that should be at the bottom of the medical character."

A perusal of the delightful address of Dr. Thomas N. Stone of Wellfleet delivered in 1872 shows that the attitude of the profession toward our Legislature has not greatly changed in fifty years. "Every year", he said, "witnesses the birth of some new theory in medicine, some grand discovery in the laws of Nature, who in her old age seems as prolific of law as a Massachusetts Legislature." Speaking of the stern granitic ideas of the Puritan fathers he said, "They could in theology stand strong doctrine to the seventeenthly of a three hours sermon. In pathology they could bear bleeding, sweating and purging, in as large doses and as oft repeated. The beloved youth of whom Jefferson was wont to tell who died of a decline notwithstanding his attentive physician had bled him twenty-six times was an effeminate son of the F. F.'s of Virginia, not a sturdy scion of the old Puritan stock."

Perhaps the most popular theme for annual discourses has been medical progress. This has been emphasized over and over again, and well

*The Annual Discourse delivered at the Annual Meeting of the Massachusetts Medical Society, Worcester, June 6, 1934.

†Davis—President, Boston Medical Library. For record and address of author see "This Week's Issue," page 1234.

may it have been so, for the progress has been truly remarkable. In some cases, dazzled by the brilliant achievements of their age, speakers have been lured into expressions of conviction that the ultimate had been reached. How often have such conclusions been confounded in the light of history!

The very pinnacle of medical progress would seem to have been attained in 1817 when the author of the Annual Discourse of that year in speaking of modern physiologists said, "They have so minutely investigated, and so perspicuously illustrated every topic connected with their profession that all pretensions to originality, and every claim to novelty are denied to their successors."

Dr. Josiah Bartlett in his address of 1810 said, "It has been remarked that more professional knowledge is at this time attainable in a single season, than was known to Hippocrates, Galen and their successors till the beginning of the eighteenth century. A case of fistula in ano, now considered as a simple disease, and often cured by our youngest practitioners, was in 1686, nearly seventy years after the settlement of Massachusetts so formidable and dangerous, that Felix a surgeon and Fagon a consulting physician were rewarded with forty thousand dollars for a successful operation on Lewis the Fourteenth of France, in consequence of which a national thanksgiving was religiously observed." This passage might seem to indicate a retrogressive rather than a progressive trend not only in pecuniary rewards since 1686, but also in the surgical treatment of fistula in ano since 1810.

That medical progress should be measured not solely by an enumeration of the obstacles overcome but by a survey of the advancement toward definite objectives, was emphasized by Dr. George C. Shattuck the second, who said in 1866 "no one can deny or doubt that we have made and are making great advances, but the horizon opens before us as we go on, and the extent of the field becomes even more apparent than our progress."

For a graphic illustration of this same point of view I must again turn to Oliver Wendell Holmes. He said, "Sir Edward Parry and his party were going straight towards the pole, in one of their Arctic expeditions, travelling at the rate of ten miles a day. But the ice over which they travelled was drifting straight towards the equator, at the rate of twelve miles a day, and yet no man among them would have known that he was travelling two miles a day backward, unless he had lifted his eyes from the track in which he was plodding."

* * * *

With these warnings fresh in mind I will venture a few guarded comments on the alluring subject of medical progress since the days of our forefathers.

A striking feature of Colonial medicine was the participation by the clergy in the care of the sick. As Dr. Henry Viets tells us in his History of Medicine in Massachusetts, "the ministers were expert in phlebotomy, and they were wont to bleed and pray in all severe cases." This was merely the cropping out in America of the very widespread association of religion with the healing art which has prevailed in all primitive cultures. The early Greek temple medicine, the Asclepieia, exemplified this trait. It flourished in Egypt in still earlier times. In Europe in the Middle Ages the monasteries preceded the hospitals in the care of the sick.

Since then specialization in medicine has carried us very far indeed from this primitive blending of the functions of two related professions, so far in fact that there are now distinct signs above the horizon of the completion of a cycle with return to a recognition of the mutual benefits of peace of mind and of body. Dr. Walter Cannon in his Discourse of 1928, emphasizing the emotional elements in disease, laid a scientific foundation for the participation by the regular profession in a field which had hitherto been largely abandoned both by the medical profession and the clergy to faith healers and cultists.

The stoical fortitude displayed by our forefathers in withstanding the three-hour sermons, and the bleeding, sweating and purging in corresponding doses so vividly portrayed by Dr. Stone was not peculiar to New England. The heroic medical dosage of those Colonial days was merely the transplantation to these shores of the accepted principles of the medical art of the mother country.

The state of medical practice in England at the end of the seventeenth century is well illustrated by the amazing account of the fatal illness of Charles II in "The Mysteries of History" by C. J. S. Thompson. The King was treated by the foremost physicians of England, fourteen in number, in constant consultation. The diagnosis was never made, not even at the autopsy. Emetics, purges, clysters, bloodletting from arm and jugular, cupping, blistering of head and feet, scarification, secret elixirs, spirits of human skull and bezoar stones were employed without avail; fifty-eight different drugs in all were administered. The unfortunate King finally succumbed after six days, the irony of his famous apology for taking such an unconscionable time a dying seems obvious.

The contrast is striking between the status of medicine of this period and the status of literature and the arts, which had already reached a stage of development which has remained unsurpassed if not unequalled. The physical sci-

ences on the other hand have made amazing progress since those days. Medical science has gone far since the days of Charles II, somewhat of a laggard at first it has within the last half century made prodigious progress. The causal factor of one disease after another has been discovered and in many cases, especially in the bacterial diseases, their control secured. No longer do great epidemic scourges such as plague, smallpox, leprosy, cholera, yellow fever, dysentery, malaria, typhoid, typhus, and diphtheria decimate vast numbers of the people. Of the great infectious epidemics, influenza alone still rages at intervals unchecked through the teeming inhabitants of the civilized world. Equal progress has been made in controlling many of the hitherto obscure constitutional and deficiency diseases, such as diabetes, rickets, pernicious anemia, and scurvy. The triumphs of modern surgery have been even more spectacular; it is unnecessary to rehearse them before this audience. Though we may well be proud of these accomplishments of medical and surgical science in banishing or controlling most of the terrible epidemic diseases of the past, and mechanically readjusting many of the derangements of the human frame, the race is still sorely afflicted with ills of body and mind. As one malady is conquered and laid low, another seems to spring up in its place to attack mortal man.

Appendicitis, the pathology of which was first fully elucidated by Reginald Fitz in 1886, has undoubtedly existed from the earliest times. Yet it is only in the modern era that it has become such a factor in morbidity and mortality statistics. Infantile paralysis, which strikes such terror into the hearts of parents to-day, has been traced back to the earliest historical period. In the past it has been obscured by the greater ravages of the more deadly epidemics, for it is only after the elimination of the greater terrors that the lesser ones assume important proportions.

Reports of new diseases such as encephalitis lethargica, tularemia, granuloma inguinale, agranulocytic angina, epidermophytosis, etc., appear from time to time in the medical journals. These are probably not new diseases but pathological conditions of long standing which have been recognized and classified for the first time.

It may well be, however, that new bacterial diseases are actually evolving. Why should not bacteria undergo evolution as well as the higher plants and animals? Opportunity for the development of sports and mutations might well occur in organisms of such short life cycle. Kirtley Mather tells us to be sure that in the cliffs of the coast of Wales of the Cambrian period there are fossils of brachiopods indistinguishable in form and structure from their descendants living to-day at the foot of these cliffs after five hundred million years. These, however, are striking exceptions to the well-nigh universal law of organic evolution. Are bacteria like brachiopods, or are there processes of evolution going on whereby these parasites of human woe in their fierce struggle with the medical profession for existence are developing by means of hard shell spores, or invisibility, or shrinkage in size, ways of withstanding the autoclave, or eluding the microscope of the bacteriologist and epidemiologist? This is an interesting speculation to which recent investigations of pleo-antigenic bacteria seem to lend scientific plausibility. I will venture just one prophecy that the time will never come when there will be an Alexander the Great in medicine with occasion to weep that there are no more diseases to conquer.

* * * *

In the troubled stream of medical progress with its many windings, countercurrents, shoals, rapids, and occasional stagnant pools, is it possible to determine the direction of the main trend? There is a confusion of conflicting views and opinions. Dire warnings of impending disaster to the profession have been freely uttered from diverse sources of late.

It was but a short time ago that the word efficiency was upon everybody's lips; efficiency experts were abroad in the land making surveys of every conceivable form of human effort. The medical profession did not escape their scrutiny. Some of the methods of the doctors and hospitals seemed crude, primitive, and wasteful, compared with the smooth working of big industrial establishments. Big business was worshipped as a god in those days. We doctors were told that we must adopt the efficient methods of big business, if we were to survive in the fierce struggle for economic existence.

Hospitals were especially criticized as extravagant in their administration and wasteful of human effort. I have seen, a few years back, an industrial efficiency expert in the operating amphitheatre of one of our large hospitals observing operations. His comments were to the effect that he observed much wasted motion. Doubtless true. No two surgical cases are exactly alike. The vermiform appendix has many hiding places, the sac of a hernia may likewise be exceedingly elusive. Care, patience, and constant vigilance, are the price of safety in operating. It is better to waste motion than blood or life. The avoidance of infection is cheap at the price of infinite pains and seeming fussiness. In other words, there is a vital human element in the relations of the doctor to the patient that cannot be standardized like the laying of bricks or the assembly of automobiles. Fortunately the danger of the adoption of the

factory-belt system in hospitals seems to have passed for the present.

There is much to admire and respect in the achievements of the great industrial organizations of America. Their prosperity has meant prosperity for the people and vice versa. Their leaders have been in the main broad-visioned, courageous, progressive, and often extremely philanthropic men. It is perhaps too much to expect them to be primarily altruists or sociologists. I am well aware that much of the medical research, of whose products we are so proud, emanates from foundations established by the generosity of wise leaders of the business world. Our medical schools and hospitals also owe a debt of gratitude to many such enlightened philanthropists. The best results, however, have been obtained in those institutions whose policies have been wisely left to experts in the field and not dictated from outside. Business naturally comes first for business men. Big business is inclined to look upon homo sapiens primarily as a consumer of material goods. With ever-expanding production big business has employed the wiles of the super-salesman and advertiser to force the absorption of an ever-increasing volume of automobiles and apartments, houses and house furnishings, refrigerators and radios, clothes and cosmetics, cigarettes, candies and chewing gum, until the saturation point present and future is attained. Homo and mulier sapientes less sapient than the name implies responded eagerly to the alluring program spread before them, cheerfully mortgaging their goods and their future in the mad pursuit of so-called happiness. Happiness as President Lawrence Lowell has so emphatically stated, contrary to the preamble of the Declaration of Independence, is not to be won by pursuit but is a by-product of earnest endeavor along other lines.

As a result of the orgy of spending and lending, borrowing and mortgaging in the pursuit of false happiness the nation has been brought almost to the verge of ruin. In the train of the financial and social shipwreck there has been an aftermath of mental and physical distress which has had its medical repercussions in worry, ill health, nervous breakdown, insanity and suicide.

To-day we hear less of the inefficiency of medicine; there is not so much criticism of the quality of medical care as of its cost. Big business rudely jarred from its former pedestal is fully occupied with its own problems; but a host of social economists have come forward raising their voices in a laudable attempt to restore order in a disordered land. In the days of prosperity the cost of medical care was not a pressing problem. To-day it has suddenly become a most vital one. It seems evident that neither organized private charity, nor the charitable service of private physicians, which has so long been a part of the doctors' code, can be reasonably expected to carry the increased load of the indigent sick incident to unemployment and diminished wages on the part of a large proportion of the population. Many and diverse plans have been offered for the solution of this problem. National, state and community medicine, health and sickness insurance, group practice, hospital and university extension and other schemes have been advocated. There are advantages and dangers in these programs; varying local conditions require varying remedies. I have no solution to offer and can only observe that no radical or sweeping immediate change seems either necessary or wise. I agree with those who advocate a policy of carefully observed experimentation on a small scale, modifying methods according to varying conditions in different sections of the country. This is not a policy of "laissez faire", call it trial and error if you like, it is the scientific method, the process by which the medical progress of the past which we have been recording with justifiable pride has been attained. Accurate records of results should lead to an evolutionary development of those means best adapted to the needs. The situation is difficult and complicated. The best medical care depends on a personal relation between doctor and patient based on mutual confidence and harmony which it is difficult to secure in large coöperative efforts. We should be slow to discard the methods which in the past have on the whole given such good results until we are sure that newer ones are better.

Over and over again countless speakers in and out of the profession have emphasized the impending doom of the general practitioner submerged by the rising tide of modern specialization. To some of us on the contrary it has seemed that this very increase of specialism has made the position of the general practitioner all the more necessary. Medical practice has not advanced along a single broad highway. There are many diverging avenues and roads, some blind alleys, many branching paths and unfrequented trails. Signposts to be sure are not lacking along the way, but the multiplicity of conflicting directions bewilders the wandering patient seeking a haven of relief from his ills. If wise he will employ a trustworthy and experienced guide.

An eloquent plea for the family medical adviser was most ably presented by my immediate predecessor in 1933, and I imagine we all agree with him as to the desirability of establishing such a practitioner as he pictured. The prime requisite however, it seems to me, is to make sure of the family to be advised. To

some of us it appears that American family life is showing serious signs of disintegration. The entrance of women into business and industry, the prevalence of divorce, the tendency of human beings to herd together in large cities in monstrous apartments and tenements are all tending to restrict family life in America. The threat to family life is not confined to the United States by any means. It is undergoing its greatest perils at the hands of Soviet experimentation in Russia, the results of which are awaited with interest by the other nations of the globe. From the earliest period of recorded history and before, the family has been the foundation of human society. To be sure, there have been cultures scattered among primitive peoples founded on other bases, such as promiscuity and group marriage, but the peoples that have showed progress and made history have without exception maintained the family relation. Is the present concern about the preservation of the family occasioned merely by a trifling and temporary oscillation in the broad onward sweep of civilization, or is there a distinct deviation of trend from the broad pathway of the past? Who can tell?

Dr. W. M. Wheeler in a recent symposium on "Biology and Society" before the American Society for the Advancement of Science contrasted the societies of termites and hymenoptera with vertebrate and mammalian societies, the former being characterized by a communal association marked by harmony and coöperation and dominated by female leadership. Vertebrate and mammalian societies, and included in these is human society, have been harassed by what he calls the "problem of the male". Male leadership has resulted in strife, disharmony and constant change, and hence progress. The hymenoptera date back to geologic periods far antedating man. Furthermore, they go through thirty generations to man's one. Hence their society is a far more experienced one than ours. The query naturally arises: may these tendencies away from family life on the part of modern man, and I should not omit woman, which are causing some of us such great distress denote a social evolutionary trend toward the civilization of the ant and the termite? If so, very radical and to many of us unwelcome biological changes of structure and function will be necessitated to attain the highly perfected and coördinated society of these insects. It is true that already artificial means, such as sterilization of the unfit, have been adopted by man to meet certain threatening conditions; a further extension of this procedure might conceivably provide a class of sexless workers, but I have not yet heard any active propaganda by man for female domination or, by woman for the prodigious female fecundity of the arthropods.

After all, these insect societies may not be so pleasant and harmonious as they appear. No psychoanalyst has informed us of their emotional conflicts, their egos, urges, and subconscious states. We do know that they engage in war and harbor the institution of slavery, two indications of disharmony, one of which civilized man has succeeded in eliminating after an age-long struggle.

Let us return to more immediate concerns. The very foundation of American democracy including the practice of family medicine depends on the preservation of family life. Each family occupying and owning its own home with a plot of land is an ideal, which was nearly realized in New England at the time of the founding of the republic, and is no less desirable now. Every head of a family should feel that he has a stake however small in the country. Nothing gives such a sense of responsibility and stability as the ownership of land. At the present time there is a widespread appreciation of this, and strong efforts are being made by some socially-minded leaders for the decentralization of industry, whereby men may live on small farms and work part time in small factories. This seems a promising experiment. With the automobile, improved roads, electricity, and the radio, the former isolation and drudgery of country life has been largely eliminated, and there has been a distinct and salutary movement back to the land which should be encouraged in every way.

The dangers moral and physical of a huge floating population aggregated in the great cities moving about from one wretched tenement to another in search of work or support, have been amply demonstrated in the last few years, and is well appreciated by the physician. The medical profession then if it seriously wishes to establish and maintain the family medical adviser must take part in the great social movement to safeguard the family itself.

With the progress of medical science and art the sum of medical knowledge which students must acquire becomes increasingly greater and now assumes appalling proportions in the minds of the elder generation. Fortunately, the younger generation seems to view the situation with a fair degree of equanimity and confidence. Each generation must learn more than its predecessor, not ignoring the discoveries and errors of the past; it must keep abreast with its own advances. The human brain seems to have been capable of absorbing this increased load of knowledge so far and the saturation point fortunately does not seem to have been reached for the higher intellects at least. In every generation there still are a few exceptional individuals, geniuses they are called, who are even capable of adding original contributions to the sum of previous knowledge.

Human offspring, however, are born into the world to-day as ignorant as they were six thousand years ago at the dawn of the historical era.

An increased capacity for acquiring knowledge may be inherited, but the knowledge itself has to be imparted, demonstrated, or hammered in, by a slow and painful process.

It is a source of frequent and perhaps sophomoric argument as to whether there has been actual advance in human intellectual achievement since the days of the Greeks. However debatable this question may be as regards attainments in literature and the arts, progress has been undeniable in the sciences, and especially in medical science. This does not necessarily imply an evolutionary advance in human brain power. The time interval has been comparatively short for evolutionary changes as judged by the time scale of man's ascent from simian stock. The advance in scientific knowledge has been gained bit by bit, and through generation after generation, by observation and experiment aided by the discovery and perfection of instruments of precision which have enormously extended the field of observation, so that the human brain to-day has tools to work with which were denied to its predecessors. There is no question that the educated man of to-day is required to retain a mental impression of a mass of facts and figures, words and formulae, which like entropy are ever-increasing and never diminishing with which the minds of the Grecian youth of the time of Aristotle were comparatively unencumbered. To continue the scientific advance and arrive nearer the goal of ultimate knowledge, each generation must hand on to the next the achievements and truths obtained at the cost of so much labor and suffering: hence in the medical profession our interest in, and solicitude for, those agencies engaged in the preservation, extension and promulgation of medical knowledge; medical schools, hospitals, libraries, health boards, and medical societies.

Those of us who have served on the examining boards of large hospitals and have had the opportunity of seeing large numbers of young medical graduates coming up for internship cannot fail to have been impressed with the capabilities of these young men, their mental activity, intelligence, and earnestness. It is a never-ceasing source of wonder to observe the adaptability of our surgical internes. They come to the hospital unskilled in the technique of a highly technical profession. After an eighteen-months' internship and a year or two of experience as resident, the best of them master the manual part of surgery to such a degree, that they equal and often excel the skill of their teachers who have spent a lifetime in the operating room. This phenomenon which is perhaps somewhat humbling to the pride of the visiting staff is for the good of the art. Judgment, poise, and discernment, are acquired somewhat more slowly. There surely is no ground for anxiety on the score of the new material which is coming into our profession at least in this locality and in the larger hospitals. I believe the same to be true elsewhere as well.

A few words in praise of the older men in the profession, the practitioners of medicine and surgery, may be allowed as the privilege of one no longer an active participant in practice. With a few striking exceptions I firmly believe that the members of our profession have nobly upheld the principle of integrity of character emphasized by Dr. John Homans so many years ago. Taken by and large they have also upheld the best traditions of family life. Realizing a true sense of values they have led simple, unselfish, busy and happy lives free from the taint of commercialism and hypocrisy. They are almost universally lovers of nature and the great outdoors. Music, art, literature and sport have been abundantly cultivated in their spare hours. High-minded, humane and altruistic, no body of men is more worthy of respect and consideration. They have conquered many dragons in the past for the benefit of humanity. Others of a different breed now lie across their path.

* * * *

The triumphs of modern medicine and surgery have indeed been great. It would be both unnecessary and tedious to this audience to rehearse them in greater detail. How far then have we progressed toward our true objectives?

These objectives are generally stated to be the prolongation of life, the relief of suffering, the prevention and control of disease, and the promotion of the health and well-being of man.

As to the prolongation of life, reliable statistics conclusively show that life expectancy has been very considerably extended during the last century. One hundred years ago the average expectation of life at birth was about forty years. The latest statistics show the amazing figure of over sixty years for average life expectancy at birth. This extraordinary advance has been accomplished largely by a decrease in the mortality rate of infants and children. The mortality rate of adults of middle age and beyond has not been appreciably diminished in the last fifty years. It would be unreasonable to expect that the range of life expectancy should increase in the future at the rate which it has in the last hundred years. As long as man is mortal, disease and death must come. The effort to extend the span of life must inevitably come into ultimate conflict with the second objective, the alleviation of suffering, unless or until that ideal of the natural death so earnestly expounded by Metchnikoff should finally be attained. In this connection I feel impelled to express my personal conviction that the pro-

longation of life by highly artificial means, at the expense of suffering, in the last stages of fatal disease, is neither sensible nor humane.

The relief of suffering, our second objective, although very far from being attained has been immeasurably advanced; anesthesia, analgesia, nerve blocking, the aseptic treatment of wounds, expert nursing, and countless new inventions in technique and instrumentation have contributed to this end.

Our third objective, the prevention and control of disease, has already been commented upon. The record is a brilliant one in which medical science and art, drawing on the researches of many allied sciences, together with the coöperation of an enlightened people, have accomplished much with high hopes of an even more brilliant future.

Much still remains to be done. The uncontrolled incidence of many infections, especially those of the respiratory tract, including the common cold, influenza, and pneumonia, is a challenge to the profession of to-day. Cancer and other malignant tumors are perhaps the greatest scourges of modern times. The degenerative diseases of the vascular system seem to be definitely on the increase. Arthritis is as prevalent and crippling as ever. Nervous instability, mental derangements, idiocy and insanity are increasing problems.

Our final objective, the promotion of the health and well-being of man is one of vast scope. The promotion of health involves not only the prevention and control of disease, but the maintenance of the state of being well physically and mentally. The promotion of well-being involves in turn more than the maintenance of good health. The words "being well" when transposed to "well-being" have acquired a broader meaning denoting general welfare, including material and spiritual attributes of life which transcend the scope of medicine.

Much has been done for the promotion of the health and well-being of man, in preventive medicine, surgery and dentistry, through the instrumentality of many organizations, national, state, and local, engaged in promoting public health, sanitation, hygiene, physical, social and mental, accident prevention, social service, dietetics, health examinations, and public instruction. Much more remains to be done and "the extent of the field becomes even more apparent than our progress". The problems involved are the most serious and difficult which concern the medical profession to-day. It is not only the medical profession which is concerned, but the whole body politic. It will require the intelligent coöperative efforts of our governing bodies, and of all forward-looking agencies, professions, and individuals, to achieve real progress toward this objective.

The strain of present-day life is taking a heavy toll from those caught in the irresistible tide of what is called our advancing civilization. Not only does it exact its penalties on the nervous, circulatory and digestive systems, but the mechanized civilization of to-day is destroying its thousands and maiming its hundreds of thousands by direct external violence.

It has been the proud boast of man that in building up his civilization he has overcome the forces of nature, but in the process he has raised up mechanical monsters of destruction far more perilous than all the plagues of the past.

To the physician earnestly struggling to reduce the morbidity and mortality of disease the attitude of the public and the governing powers often seems incomprehensibly blind, if not callous. It is disheartening to say the least to those who have dedicated their lives to war on cancer, tuberculosis, and infectious disease, to realize how little value the community apparently sets on human life as manifested by its complacency toward the staggering sum of fatalities from accident, homicide, and suicide.

The widespread participation in all forms of insurance by the American people is doubtless commendable. It spreads the financial burden resulting from casualities, which might be crushing to an individual, over such a large number of policyholders as to seem nominal. By the same token it tends to dull the moral sense of responsibility of the reckless toward accidents. There is a state of mind altogether too prevalent which might be expressed in the vernacular: the company pays the damages, step on it. It is the community that pays in the long run and is paying grievous dear.

The insurance companies of course are well aware of the situation and have made commendable efforts to correct it. Corrective measures to be effective, however, must come from other sources.

Figures compiled by one of the large national insurance companies show that in the year 1933, there were 29,900 deaths in the United States as the result of automobile accidents; 4,850 of these were among children. Over 850,000 persons were injured; 139,000 of these were children under 14 years of age. In the last ten years over 273,000 persons have been killed by automobiles. In the last four years there have been nearly four million injured. These figures far overshadow the casualties incurred by the American Expeditionary Forces in the Great War. The official war figures are 36,694 killed in action and 224,089 wounded of whom 13,691 died of wounds. We are all well aware of the cost to the nation of the disabilities resulting from the World War. Estimates of the cost of the nearly four million injuries resulting from automobile accidents in the last four years stagger

the imagination. It is estimated that the cost of industrial injuries alone is over five billion dollars annually.

The mortality statistics of the census bureau for the registration area of Continental United States for the year 1929, the last year for which full official figures have been published, show over 94,000 deaths from accidents; over 16,000 suicides; and just under 10,000 homicides, a total of 120,000 violent deaths. These three forms of violent death together account for more victims than any single cause in the international classification of causes of death with the sole exception of heart disease, which was recorded as the cause of 245,244 deaths. Next comes cancer with 111,000, pneumonia and nephritis each 106,000, and so on down the list. For those in the active period of life, from twenty to forty-five years of age, deaths by violence exceed any other cause of death. It is significant that, of the 1,386,363 inhabitants of the United States who died in 1929, only 12,319 were recorded as dying of old age in that hectic year. What of the great epidemic scourges of the past? In 1929, 151 persons died of smallpox, nineteen of typhus, none of plague, none of yellow fever, none of cholera.

Of all the forms of death it would seem that violent and accidental death should be the most preventable except those resulting from the uncontrollable convulsions of nature such as storms on land and sea, earthquakes, floods, landslides, lightning, sunstroke, etc., which in this fortunate land have been factors of relatively minor importance. The blame is not to be laid on nature but on man.

The disabilities and deaths resulting from accident and depravity may not be considered to be strictly within the province of the medical profession. It is, however, the medical profession which is called on for the treatment of the victims, and with the same altruism which our profession has demonstrated in the prevention of disease we should join in the attack upon these modern scourges at their source. A very notable improvement in the rate of fatalities and accidents in industry has already resulted from the coöperative efforts of government, industry, and labor, with the medical profession. This is, however, but a part of the problem and the smaller part.

The profession needs to be aroused to the full implications of our objective of promoting the well-being of man. The problem involves grave questions of sociology, economics, and government, which are beyond our control, it is true, but the united medical profession should and would have an enormous influence for good if exerted in the right direction. To no one are the varying traits of weakness and nobility in human nature more deeply revealed than to the physician. He is by training and instinct sympathetic and understanding. He is well aware of the crying need in domestic life of the cultivation of those simple basic virtues upon which the maintenance of the home and family depend. He is equally well aware of the crying need of character, integrity and intelligence in public affairs. What body of citizens is better qualified to help in promoting these by precept and example?

Many organizations and individuals outside the medical profession are actively engaged upon these problems at the present moment. Many individuals and organizations within the medical profession and among them members of this Society have for many years waged a valiant battle for the betterment of social and industrial conditions affecting the health and well-being of the community.

The profession as a whole, however, is apathetic, reluctant to venture beyond what seems its legitimate field, but as Dr. Shattuck said so many years ago "the horizon opens before us as we go on".

Without relaxing for a moment our efforts along the lines of past endeavor, for the frontiers against disease so hardly won must be maintained and extended, we must at the same time take the offensive against an even more insidious foe infiltrating the fabric of our social welfare.

The active participation by the medical profession in civic, economic and sociological matters affecting the well-being of the people is, I believe, sorely needed to-day to avert a social cataclysm threatening the very life of the nation.

We must, like Sir Edward Parry's Arctic party, raise our eyes from the track along which we are plodding to above the horizon if we would measure the progress toward our true objectives.

I would not advocate a return to the teleological views of Galen, but a teleology of aim and effort is as essential in medicine as in religion of which it might be considered a part.

The occasion is pressing, the capabilities are at hand, may neither the vision nor the will be found wanting.

A CASE OF POSTENCEPHALITIC PARKINSON'S DISEASE TREATED BY TOTAL THYROIDECTOMY*

BY ABRAHAM MYERSON, M.D.,† AND DAVID D. BERLIN, M.D.†

THE rationale which prompted one of us (Abraham Myerson) to select a case of Parkinson's disease for total thyroidectomy is as follows:

1. In active untreated cases of Parkinson's disease the metabolism is increased. Thus, in a very severe case, who was deprived of sedative medication for a week, the metabolism rose to +60 per cent. In several other cases the metabolism has ranged between +15 and +40. When these same cases are given large doses of stramonium or hyoscine with some control of tremulous muscular activity, the metabolism drops. These cases will be cited, together with other facts, in a detailed manner, in a later paper.

2. The drugs that are in any way successful in ameliorating the condition of patients with Parkinson's disease lower metabolism.

3. These facts, together with the belief that the normal thyroid activation is too great for an organism with defective neuronic links, lead to the hypothesis that if the thyroid were totally removed and the patient allowed to become myxedematous, the myxedema could be controlled and the symptoms would be ameliorated in much the same way that reducing the speed of an engine lessens shaking and rattle in a light or defective machine.

The later facts showed that this rationale of approach is not entirely correct. Nevertheless, the results of operation were quite striking.

CASE HISTORY

Estelle C., aged 32, married, had encephalitis at the age of nineteen. In the next two years the patient was quite sleepy, weak, and depressed. This condition persisted moderately until about twelve years ago when she began to notice shaking of the right leg. Gradually this shaking spread to all limbs, face, and tongue. The face became stolid, and the patient presented a characteristic Parkinson's syndrome. Her baby was born in 1927. Her symptoms increased. Her condition grew worse despite the varied types of treatment she underwent, and for two months before it was decided to perform a thyroidectomy upon her, she had become bedridden. The tremor was as marked as any case we have noted. The churning of the jaws was so great that the saliva became very foamy. She could not feed herself and her speech was almost indistinguishable. At this time she was receiving eight hypodermic injections of 1/50 hyoscine each day together with varying, but large, doses of luminal, amytal, and other sedatives.

She had received during the period of her illness from various neurologists hyoscine, stramonium, harmin, atropin, parathyroid gland, calcium lactate, and belladonna. It is noteworthy that 3 gr. of stramonium leaves three times a day had no effect. Sterile milk was also employed in the latter part of 1930. Typhoid vaccine was tried for a moderately prolonged period of time. Thus, in summarizing the treatment, all forms had been used, and even with the most massive doses of hyoscine and other drugs, she had become bedridden and her tremor and rigidity were extreme, the tremor being more noticeable, however, than the rigidity.

She entered the Greater Boston Bickur Cholim Hospital on June 5, 1929. She was sent to the Beth Israel Hospital on December 5, 1933 where a total ablation of her thyroid was done without incident by Dr. David D. Berlin. Prior to the operation her metabolism was —29. This we ascribed to the enormous doses of hyoscine which she was receiving.

No noticeable improvement occurred during the first two weeks. In fact, when she left the hospital her condition was probably somewhat worse than before the operation. About the third week it was noted that the patient's condition was improving. Gradually as she approached myxedema, manifested by harshness of the skin and a dropping metabolism which reached —35, it became possible to control her condition with much less hyoscine than before. Some time in the early part of February, 1934, the patient was able to get up out of bed, walk, raise her hands and hold them outstretched with but little tremor. There was some definite tremor around the mouth. She could be kept in this condition with three doses of hyoscine a day together with a small dose of luminal. Prior to operation she had complained of pain in her ankles and feet. This pain became the most troublesome of her symptoms.

On March 21, 1934 the note states: patient walks with a slight drag of the legs and with a typical Parkinsonian facies, and lack of associated movements. Her speech is clear although the voice is weak. There is no noticeable tremor of the face. The tongue protrudes straight, is red, and without noticeable tremor. There is marked plastic rigidity of the neck. The patient can feed herself. When she raises her arms, they are held quite steady. Her grip is fairly firm. There is no swing of tremor to the opposite side when either hand is used, although movements of the hands set up an associated tremor which is slight of the mouth. Her arms are not spastic. The patient herself feels very much better. She does not fall asleep so frequently as formerly, and she is very grateful for the results.

THE EFFECT OF ELIMINATING THE HYOSCINE

The hyoscine was not administered for two days. During this period the patient became markedly worse and, in fact, reached her preoperative stage. She became so tremulous that she could not use her hands. Her speech became very indistinct, and the churning of the saliva into foam recurred. When she was put back on hyoscine, which is now being administered in two doses of 1/50 gr., the symptoms became immediately ameliorated to the point where she is now ambulatory.

*With grateful acknowledgment to the Greater Boston Bickur Cholim Hospital and the Beth Israel Hospital, whose coöperation made this procedure possible, and to the patient, who fully and freely gave her consent.

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The myxedema was easily controlled by a small dose of thyroid, ranging from ½ to 3/4 gr., per day. We have not tried the effect of large doses of thyroid because it seems likely that this would have the effect of stopping the hyoscine, that is, it would restore the previous helpless condition. The after-care in this case is quite difficult, and it is probable that the patient will require constant medical management.

The patient was demonstrated at the Boston Society of Psychiatry and Neurology on April 26, 1934. She left the Greater Boston Bickur Cholim Hospital for the first time with the exception of her ambulance ride to the Beth Israel Hospital. She was very composed during the automobile trip, got out of the machine by herself, walked up the stairs leading to the place of meeting, was not at all agitated by the presentation before a rather large group, walked around, raised her arms and legs without noticeable tremor, and was driven home in a taxi quite jubilant over her performance.

THE WORKING HYPOTHESIS

We are working on a series of cases and selecting at the present time the hopeless and completely disabled types. The theory that the myxedema in itself would lead to amelioration of symptoms must be modified in view of the fact that when the administration of hyoscine was stopped the patient immediately slumped into her previous condition. The provisional explanation or working hypothesis is that with the thyroid removed, the administration of the hyoscine becomes effective; whereas with a fully operative thyroid the organism is activated against the full effect of the drug.

We do not in the least expect that this is a cure of Parkinson's disease, nor do we know that any other case will react as this one did. The results constitute a valid basis for further work along this line.

THE EFFECT OF DINITROPHENOL ON THE METABOLISM AS SEEN IN SCHIZOPHRENIC PATIENTS*

BY J. M. LOONEY, M.D.,† AND R. G. HOSKINS, M.D.†

IT has been found during the course of our investigation on schizophrenia, that patients suffering from this disorder have lowered basal metabolic rates[1]. Previous therapeutic efforts with thyroid preparations appeared to be beneficial in certain selected cases[2].

The studies on 2.4 dinitrophenol by Cutting and Tainter[3, 4, 5] indicated that the basal rates could be increased by the use of this drug without any harmful effect on the patient. It seemed worth while, therefore, to raise the basal metabolic rate in a group of patients by means of this compound and estimate the concomitant changes in various physiological and psychological functions in order to determine whether the beneficial influence of thyroid was due to the increase in the basal metabolic rate, per se, or to other effects of the medicament.

For this purpose ten patients were given 2.4 dinitrophenol by mouth in gelatine capsules, beginning with an initial dose of 3.0 mg. per kilo daily. The medication was continued for a period of seven weeks and increases in the dosage in some cases up to 4 mg. per kilo were made whenever it seemed warranted by the individual's reaction.

Analyses were made weekly, beginning two weeks before the period of medication and continuing for two weeks afterward on both blood and urine. Determinations were made of the oxygen consumption rates three times a week. On the blood, determinations were made for non-protein nitrogen, urea nitrogen, uric acid nitrogen, creatinine nitrogen, sugar, cholesterol, lactic acid, glutathione, carbon dioxide, oxygen and pH. In addition, studies of complete blood cytology were also made. Each week twenty-four hour urine specimens were collected, catheterizations being employed at the beginning and end of the period to insure complete and accurate collection. These were analyzed for total nitrogen, urea nitrogen, ammonia nitrogen, uric acid nitrogen, and creatinine nitrogen. Routine qualitative determinations were made for the presence of sugar, albumin, acetone bodies and bile pigments, as well as microscopic examinations for casts, etc.

In the first chart we have given graphs of the weights for each of the ten patients. It will be noted that a gradual loss of weight is experienced in every case, ranging from 0.8 kilogram to 5.6 kilograms, with an average loss of 2.5 kilograms. Undue loss in weight was combated by keeping the patients on a non-restricted diet, and in three cases by supplementary feeding of milk and eggs between meals. For this reason the loss of weight in our patients was much lower than that in the obese patients reported by Cutting[4] which averaged 0.9 kilogram per week.

The oxygen consumption rate was increased

*From the Memorial Foundation for Neuro-Endocrine Research and the Research Service of the Worcester State Hospital, Worcester, Massachusetts.

Read at the December Meeting of the American Association for the Advancement of Science held in Boston.

†Looney—Director of Laboratories, Memorial Foundation for Neuro-Endocrine Research, Worcester State Hospital. Hoskins—Director of Research, Memorial Foundation for Neuro-Endocrine Research, Boston. For records and addresses of authors see "This Week's Issue," page 1234.

on the average approximately 50 per cent from a mean value of 84 per cent of normal expectation to 123 per cent, as may be seen from the graphs in chart II. One subject was almost completely refractory to the drug in the dosage used. The increase commenced immediately after the taking of the first dose and reached its full effect within a few days. The oxygen consumption rate remained elevated after the administration of the dinitrophenol had been terminated and did not again reach its premedication level until ten to fourteen days later. This is in contrast with the findings of Cutting, Mehrtens, and Tainter[4] who found that in nonpsychotic subjects the oxygen consumption rate fell to normal within three to four days. Evidences will be noted in two of the charts of the erratic and unaccountable elevations in the rate that are often seen in schizophrenic patients. Because of this peculiarity, trends are more significant than individual findings.

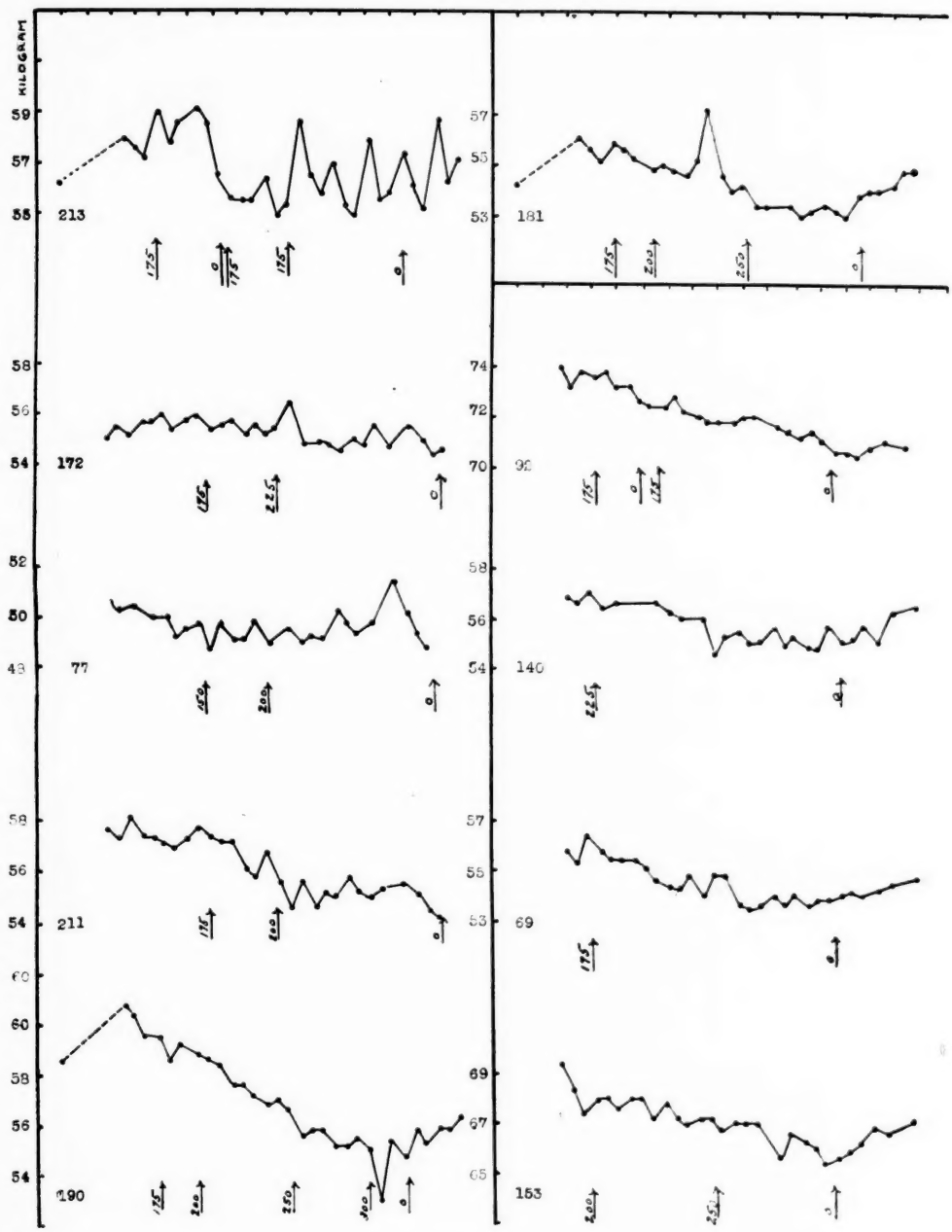

CHART I.
BODY WEIGHT.
Observations at irregular intervals. Number of days intervening being indicated by the distance on the horizontal axis. (Each space represents five days.)

There was no appreciable increase in body temperature and the pulse rate, systolic and diastolic blood pressure readings remained approxi-

mately constant. This point is worthy of consideration in view of repeated attempts which have been made to produce a formula for predicting the basal metabolic rate from the pulse rate, pulse pressure, and blood pressure determinations.

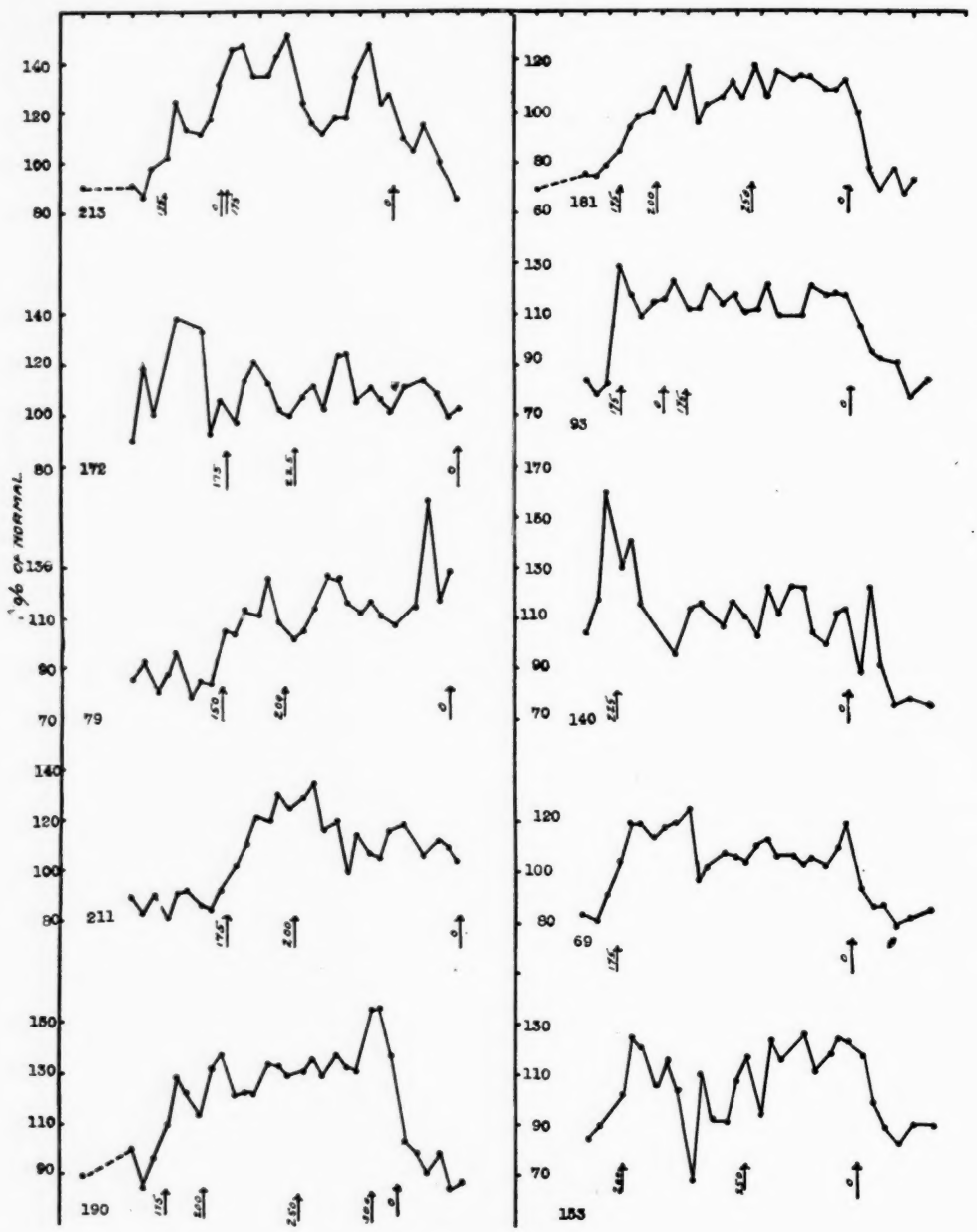

CHART II.

OXYGEN CONSUMPTION RATE.

Observations at irregular intervals. Number of days intervening being indicated by the distance on the horizontal axis. (Each space represents five days.)

The effect upon the nitrogenous constituents of the blood is somewhat striking, as shown in charts III, IV, V, and VI. In every case there is a diphasic reaction consisting of an initial rise in the nonprotein nitrogen, urea nitrogen, and creatinine nitrogen, and subsequently a fall. The uric acid nitrogen appeared to remain somewhat elevated during the entire period of medication. These increases were so marked in the first four patients, in one of whom the non-protein nitrogen reached a maximum value of 54.0 mg. per 100 ml. that the advisability of discontinuing the study was seriously considered. However, as careful examinations of the urine showed no indication of renal damage and as the following week the nitrogen content of the blood had receded from its high level, it was decided to continue with the medication. In one case only was any gastro-intestinal disturbance noted. This patient vomited a small amount

of watery material during the second week of medication so that on one day no drug was given.

Despite the gradual loss of weight, no evidence of excessive loss of nitrogen was found by quantitative analyses of the urine. There was no characteristic trend in the nitrogen output of these patients, three showing a tendency to excrete more nitrogen, three to excrete less, and the remaining four showing no change. This finding supports that of Magne, Mayer, and Plantefol[6] who reported no increase in nitrogen excretion in dogs on a constant nitrogen intake. The creatinine output fluctuated slightly around the mean value but did not change significantly in either direction. The total urinary volume varied greatly among the individuals, one patient having an average daily output of 1000 ml. and another one of 5291 ml., but the volume for each individual remained relatively constant. There was no definite relationship between total urinary volume and total nitrogen output.

The effect of the increased metabolic rate upon the carbon dioxide and oxygen content of the venous blood was also determined. It was

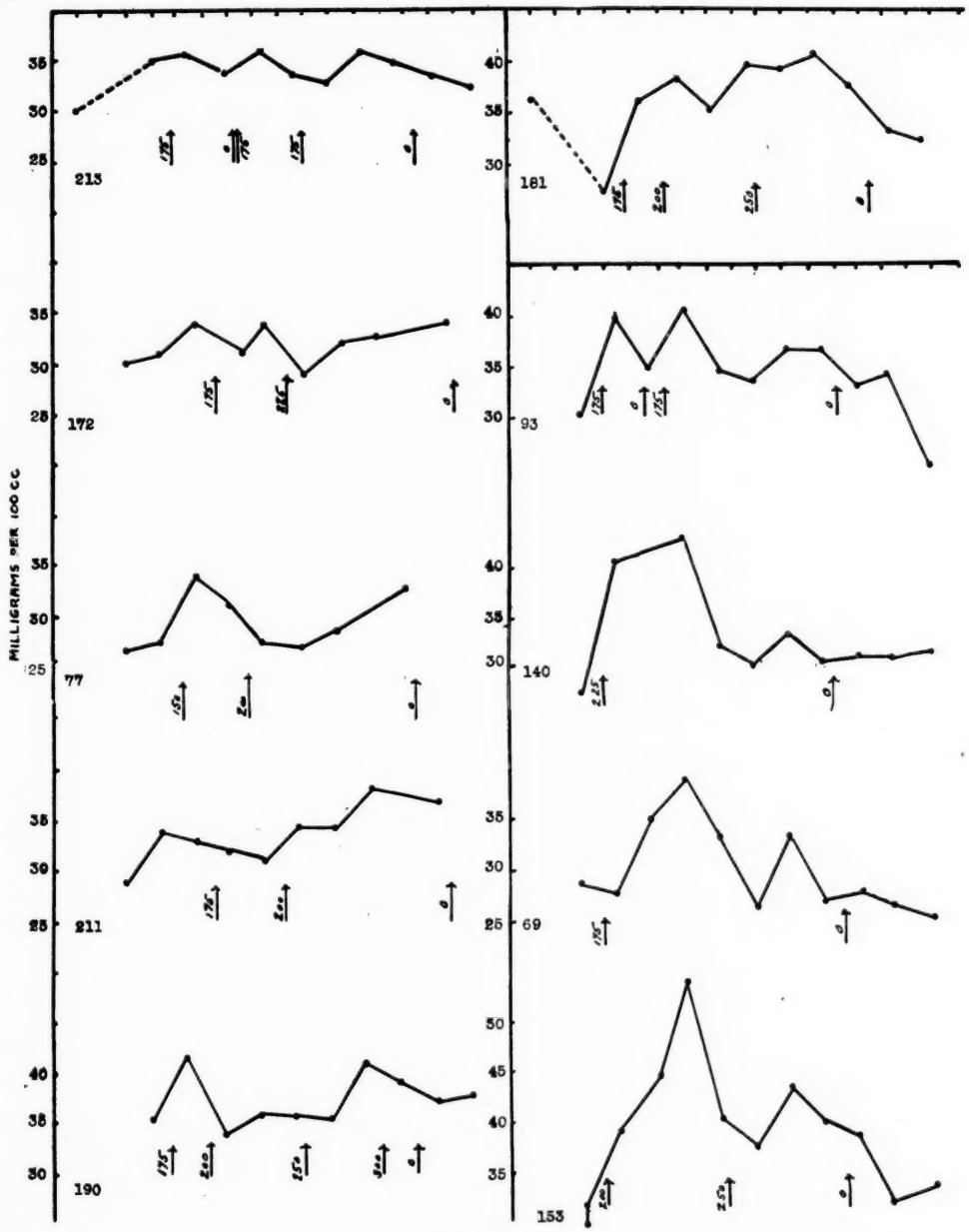

CHART III.

NONPROTEIN NITROGEN.

Observations at irregular intervals. Number of days intervening being indicated by the distance on the horizontal axis. (Each space represents five days.)

thought that an increased energy exchange in the tissues might be mirrored by an increased output of carbon dioxide and a lowering of the oxygen content of the venous blood. However, no such effect was noted, the carbon dioxide values remaining relatively constant and the oxygen values in some cases showing increases and in others decreases.

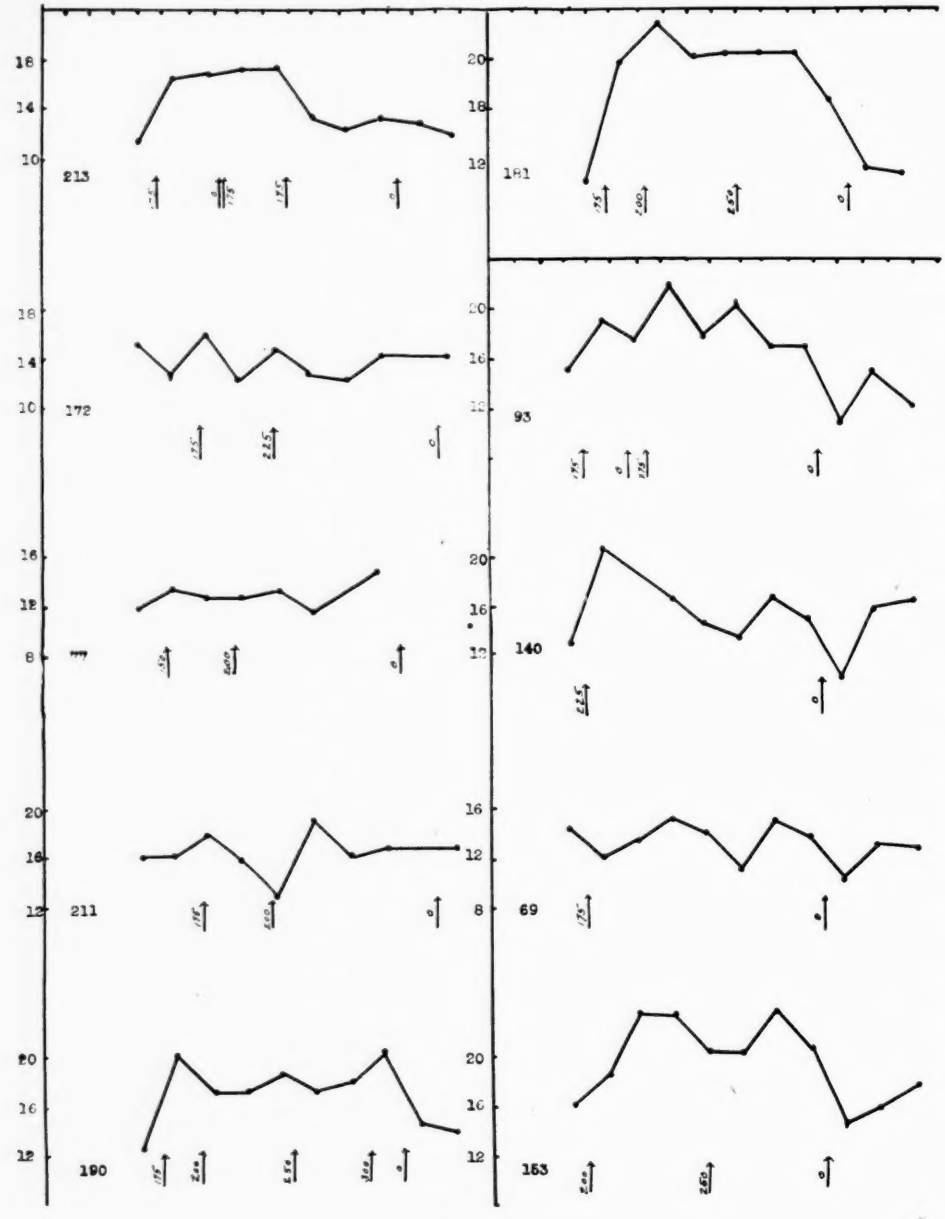

CHART IV.

UREA.

Observations at irregular intervals. Number of days intervening being indicated by the distance on the horizontal axis. (Each space represents five days.)

As previous investigations had shown that the lactic acid content of the blood of schizophrenic patients was significantly higher than that of normal individuals, this was determined by the method of Friedemann and Kendall[7]. The values obtained showed considerable fluctuation between 5 and 20 mg. per 100 ml. of blood during the period of medication, but no consistent increase. This is indicative of the fact that anoxemia does not occur as a result of the increased demand of the tissues for oxygen. This finding is in agreement with that of Hall et al.[8], who found that in dogs even with large doses, 10 to 20 mg. per kilo, there was no consistent increase in the lactic acid content of the blood until the terminal stage was reached. The pH of the blood was determined by the glass electrode and electron tube potentiometer of Stadie et al[9]. A slight increase amounting to 0.05 pH was noted in six of the ten cases.

No change was noted in either the reduced or total glutathione content of the blood, the values falling between 40 and 50 mg. per cent. The blood cholesterol showed marked variation, but no significant trend could be elicited; the values ranged from 122 to 219 mg. per 100 ml. of blood. The blood sugar values showed a tendency to rise, but the increase was not of sufficient magnitude to be regarded as significant.

There was a suggestion that the medication may prove to be of some therapeutic value, but our data are not yet sufficiently extensive to permit accurate judgment.

SUMMARY

In order to study the effect of raising the low basal metabolic rate, which is consistently found in schizophrenic patients, by the use of a dinitrophenol, this drug was administered to ten patients in doses of 3 to 4 mg. per kilo for a period of forty-nine days.

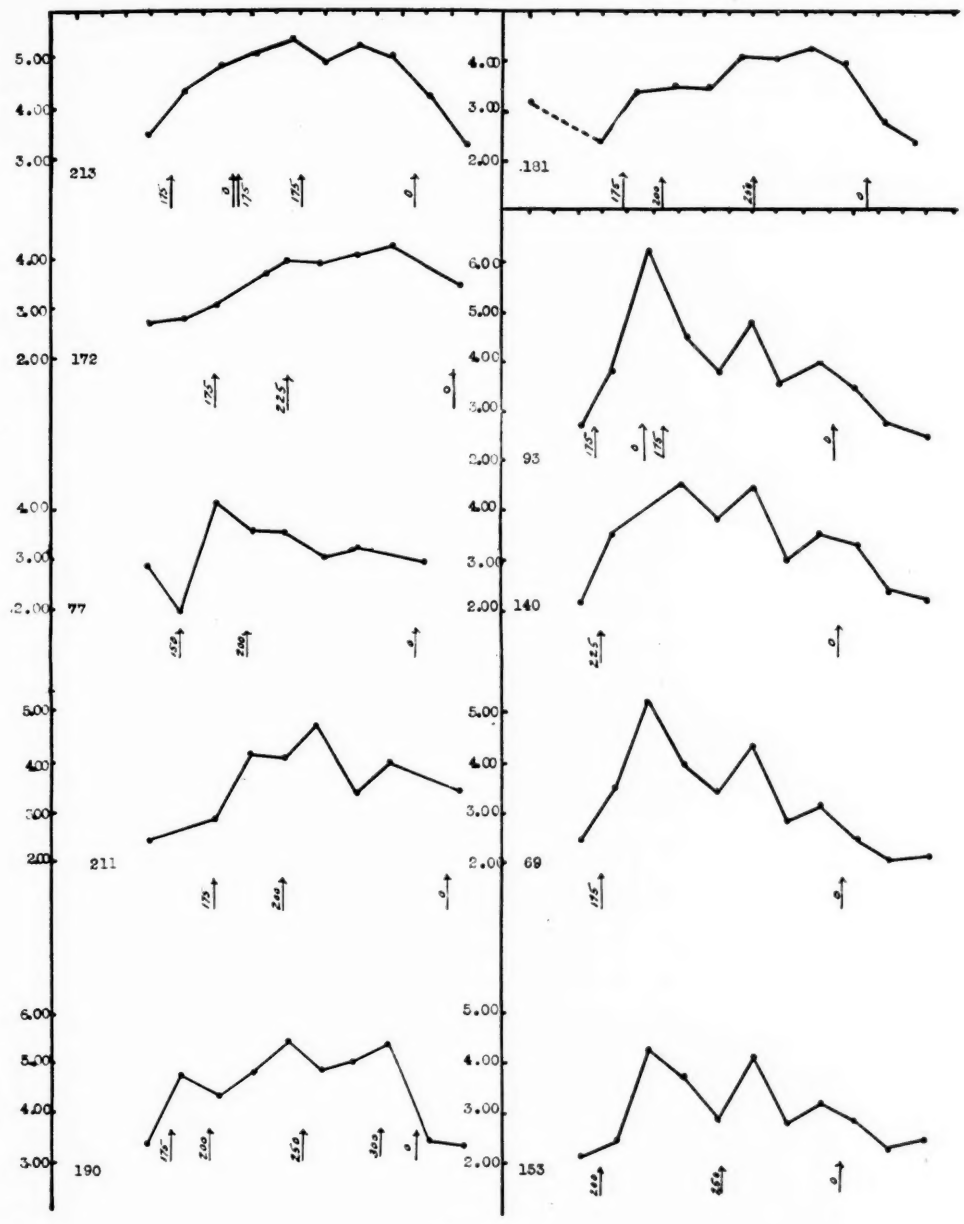

CHART V.

URIC ACID (BLOOD).

Observations at irregular intervals. Number of days intervening being indicated by the distance on the horizontal axis. (Each space represents five days.)

Each week analyses were made on blood for complete nitrogen partitions, sugar, cholesterol, lactic acid, glutathione, carbon dioxide, oxygen, and pH. Nitrogen partitions were made on urine as well as routine qualitative analyses.

It was found that there was an increase in

the basal metabolic rate of approximately 50 per cent without any concurrent change in blood pressure and pulse rate or temperature. At first there was a gradual increase in the non-protein nitrogen, urea nitrogen, and uric acid nitrogen, which again receded to normal as the treatment continued. Blood cholesterol and lactic acid showed considerable variation but no consistent trend. Patients lost about two to three kilograms in weight but no deleterious effects were noted.

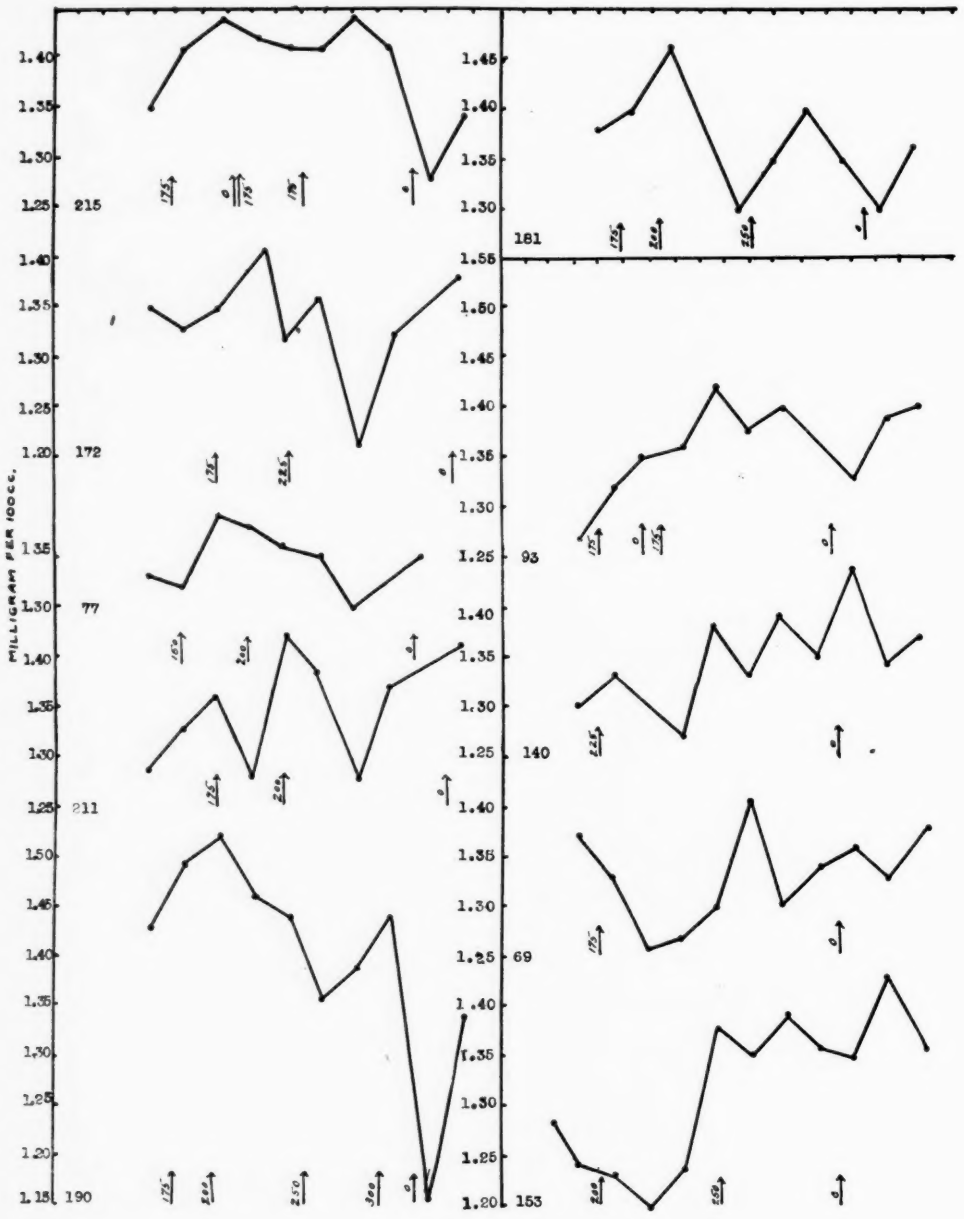

CHART VI.

CREATININ (BLOOD).

Observations at irregular intervals. Number of days intervening being indicated by the distance on the horizontal axis. (Each space represents five days.)

CONCLUSION

Dinitrophenol can be used to increase the rate of oxygen consumption without great loss of weight, especially if the energy intake is augmented by supplemental feeding.

Within the limits of dosage employed, the drug is apparently harmless.

In dosages up to 4 mg. per kilo, the drug is without significant effect on temperature, blood pressure, pulse pressure, or pulse rate.

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HYPERTROPHIC ARTHRITIS OF THE HIP*

A Review of Seventy-Nine Patients

BY JOHN G. KUHNS, M.D.†

THIS study is based on a review of the histories and end-result examinations of seventy-nine patients who were treated for hypertrophic arthritis of the hip in the Robert Breck Brigham Hospital from the opening of its wards in 1914 until 1931. In this group there were 45 females and 34 males. This would suggest that more women suffer from this disability than men, which is contrary to the findings of others[1]; but in the entire number of patients treated in the hospital for arthritis of all types during this period there were about twice as many women as men. The ages of the patients with hypertrophic arthritis of the hip at the time of admission to the hospital varied between 36 and 73 years, the average being 56. None of the cases studied were of the type occasionally described in young adults where osseous overgrowth occurs about the margins of one hip joint following severe trauma to the hip, a condition more properly called traumatic arthritis[2].

The histories of these seventy-nine patients gave interesting, suggestive data in regard to possible causative factors. It was suggested repeatedly that heredity played no part in the development of hypertrophic arthritis[3], except in the inheritance of the type of body-build. Hypertrophic arthritis is more apt to attack individuals of the stocky type[4]. There were thirteen patients in this group, members of whose immediate families were afflicted with severe arthritis. But an incidence of this extent (15 per cent) is not high enough to establish any definite familial relationship.

Repeated injury and strain have been mentioned more often than other factors in the past as a cause of hypertrophic arthritis[5]. Trauma is frequently remembered, but when described usually appears to have played no major part. In nine of the patients there had been a severe fall or blow upon the hip within several years of the development of the arthritic symptoms. Injury to joints from hard labor, also, has been considered of etiological importance[6]. In this group there were only fifteen persons engaged in work which could be considered laborious. Obesity has been known to produce the symptoms of strain in various parts of the body. Twelve of the patients were much overweight; but half of the entire group were below what would be considered their normal weight.

One female patient, aged forty-seven, had an unreduced congenital dislocation of both hips with extensive hypertrophic arthritis in both hips. Posture, as has long been recognized, can alter weight-bearing lines and change the stability of joints such as the hip. In fifty-seven of the patients, all of the cases where mention was made of it, the posture was described as poor. In the earlier records no mention was made of the posture. It seemed reasonable to assume that infections in early life which damaged articular tissues might leave such articulations more susceptible to later injury either infectious or mechanical. One man and two women in this number had suffered from rheumatic fever in childhood with involvement of the joints.

The importance of endocrine dysfunction in certain cases of hypertrophic arthritis is scarcely questioned[7]. The thyroid gland or the ovaries are usually considered at fault in such cases. Unfortunately very few basal metabolic tests were taken upon arthritic patients before 1924. In this series a persistently low basal metabolism was found in eighteen patients and a high basal metabolism was observed in three. In four women the arthritic symptoms developed at the climacteric[8]. No other studies on endocrine dysfunction were made except in rare instances.

A possible relationship of disordered intestinal function to hypertrophic arthritis has been mentioned[9]. As there is no unanimity of opinion as to what constitutes disordered intestinal function it is difficult to collect data from records. Unfortunately studies of the stool and tests for the rapidity of intestinal elimination were performed only in the later cases. In this group there were sixteen patients who gave a history of chronic constipation. Eighteen others showed colonic stasis of more than forty-eight hours upon x-ray examination[10].

Among certain students of arthritis the hypertrophic form is still looked upon as an infectious rather than a degenerative process[11]. Certain findings in the histories of these patients would suggest that infection played some part, proba-

*This paper is one of a series of studies made in connection with the Robert B. Brigham Hospital Survey of Chronic Disease.

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bly a secondary one, in the development of their disabilities. It could not be determined clinically and by x-ray whether in these particular cases the original process, hypertrophic arthritis, was wholly an infectious process, or whether the degeneration and trauma had made the articular tissues a more ready prey when infection entered the body. In recent years there has been a tendency to discount the effect of foci of infection in hypertrophic arthritis and the question is still sub judice. Dental infection was found in twenty-eight patients and chronic tonsillar infection was recorded in ten. No definite clinical improvement was observed after the removal of these infections. In seven other patients there was a distinct increase in the arthritic symptoms in the joints showing hypertrophic arthritis during the course of acute infections such as colds, tonsillitis and scarlet fever.

The laboratory data available in this series of patients were for the most part negative. The basal metabolic tests have already been discussed. There was secondary anemia in three patients. The blood counts in all of the others were within normal limits. Determination of the blood serum calcium and phosphorus showed nothing noteworthy. The tolerance for glucose gave the normal readings except where other physiological dysfunction was present as the cause. The blood sedimentation rate was within the normal readings except in the few cases already mentioned where the temperature and clinical course either showed or suggested an infectious process[12]. Hypertension has been commonly found by some observers in hypertrophic arthritis[13]. In this group there were only ten patients with a systolic blood pressure persistently above 160 mm. of mercury.

The x-rays in this series showed the usual findings, rather dense bone, with osseous proliferation about the upper margin of the acetabulum and upon the femoral head. In a few cases there were localized areas of rarefaction in the femoral head and localized areas of ossification about the acetabulum resembling osteophytes[14]. The extent of the anatomical changes did not parallel the severity of the symptoms. No change was observed in the x-ray subsequent to treatment except that in lateral x-rays a decreased forward inclination of the pelvis was observed due to correction of posture and faulty weight-bearing. In a few patients later x-rays showed more extensive changes about the hip joint, usually associated with continuance or increase in severity of symptoms.

The treatment of these patients was wholly conservative, not from lack of competent surgical assistance or from extreme conservatism, but as an attempt to determine what would be the result with as good a regimen of health as could be devised at that time. The earlier cases, from 1914 to 1920, were treated with rest, a little physiotherapy and local support to the hip, usually a plaster or a leather spica[15]. The results in these early cases were not particularly good. They compare in functional rehabilitation and in relief of pain about equally well with the results of the various surgical procedures which were performed for hypertrophic arthritis, of which reports appeared in the literature during these years[16]. From about 1920 onward came a fuller realization that one was not dealing with a localized disease in the hip alone and the results of treatment improved tremendously with prolonged and adequate rest, physiotherapy devised to correct so far as possible the mechanical inadequacies of the affected hip joints, including general postural exercises and local measures to increase motion and strengthen muscles about the hip itself, and whatever measures were indicated to improve the general health.

It has long been known that constant rest in a position in which there is no strain will usually relieve the muscle spasm and pain in hypertrophic arthritis quite promptly. In the later cases the patients were kept in bed for a prolonged period of time, usually two weeks or longer, and the affected hip joint was kept in a position which least resisted the muscle spasm either by pillows and sandbags or with a plaster spica[17]. Walking was not permitted until muscle spasm and pain were almost gone. Heat was used locally to improve the circulation about the hip and to produce muscular relaxation. Massage was used in only a few of the cases since nutrition and strength seemed to improve much more rapidly with supervised active use of the muscles than by the passive stimulation given through massage. The physiotherapy given was not primarily for local comfort but rather to correct the mechanical deficiencies of the body which resulted in strain and acted as aggravating factors in the hypertrophic arthritis. One of the chief factors found in association with poor posture was the markedly increased forward inclination of the pelvis. This, by increasing the lumbar lordosis and changing the pull of the flexor and extensor groups of muscles about the hip joint, decreased its stability and made strain a more constant factor. The thrust of weight and the carriage of the upper part of the body as well as any foot strain were also corrected.

The medical treatment and the general upbuilding measures varied with the individual patient. In all an attempt was made to give a diet adequate in mineral constituents and vitamins, high enough in calories for the individual need, usually low in calories for the obese patients and moderately low in carbohydrates for all. Laxatives were used at first in most of the cases to secure more adequate intestinal elimination. In a few patients where intermittent swelling and pain occurred in various joints

where hypertrophic arthritis of the hip was present, in the presence of a slight persistent increase in temperature and an increased blood sedimentation rate, vaccines were used usually after testing for skin reactions. There was appreciable clinical improvement in a small number of these patients after the use of vaccine[18].

Among the early admissions there were many patients who were quite old. A large number of these have since died. Many of these were entirely relieved or much improved in regard to the disabilities in their hip joints for a long period before death[19]. In none of these could any definite relationship be established between the cause of death and the hypertrophic arthritis. The patients died for the most part from the diseases commonly observed in the aged. There were twenty-three deaths in this group of patients. Table 1 gives the causes of death.

TABLE 1

Myocardial failure with various cardiac disturbances	4
Bronchopneumonia	3
Cerebral hemorrhage	2
Lobar pneumonia	2
Carcinoma of breast	2
Cause unknown	2
Diabetes	1
Angina pectoris	1
Syphilitic aortitis	1
Carcinoma of cervix	1
Gangrene of leg	1
Pernicious anemia	1
Miliary tuberculosis	1
Carcinoma of stomach	1

It is extremely difficult, in a disease so protean in its manifestations as arthritis, and in individuals who are past middle life, to give accurate end-result data. The advancement of various degenerative processes and intercurrent infections have in a number of instances obscured the functional improvement in the hip joint. The shifting economic status, and the mental unrest in many patients have made it difficult to maintain the improvement which was noted on discharge from the hospital. Most of the patients who are still living have been followed through the out-patient service. A small number have had subsequent admission to the wards due to a recrudescence of symptoms attributable to other diseases. Some of the patients have been helped in finding employment, or in securing better diet and living quarters through the Social Service Department. Table 2 gives a summary of the end-result study.

One hesitates to use the word "well" in these patients. They do not get well in the sense that there is a restoration of normal anatomic structure in the hip joint[20]. So far as we know the changes about the hip joint remain. From observations on other joints such as the fingers and knees we do know that the swelling of the soft parts about the joint often subsides, permitting freer motion. In about half of those classified as better a limp remained, but all pain had disappeared and they were able to walk without discomfort. Return of full range of motion at the hip joint following hypertrophic arthritis was observed only in the cases showing slight structural changes in the x-ray. In those listed as better but not working there were three aged

TABLE 2

	Men	Women
Working and better	5	9
Better: not working	13	7
Condition the same	4	9
Worse	3	3
Not found	0	3
Died	9	14
	34	45

individuals, but the remainder had been unable to find work. We believe that further improvement might have resulted in some of the patients whose disability remained the same if it had been possible to obtain more prolonged hospitalization, more careful supervision at home, or better coöperation on the part of the patient.

Among the six patients listed as worse there were three men, one eighty years old with a recent fracture of the hip; one, an alcoholic of fifty-eight; and one, a man of fifty-six who had refused all medical aid since he had left the hospital. Of the three women, one sixty-three years old, had carcinoma of the breast; one, sixty-five, had severe myocarditis; and a third, a woman of seventy-two, showed progression of the hypertrophic arthritis with increase in the usual infirmities of age. Three patients, all women, could not be traced. Twenty-three, discussed before, had died.

The greater number of these patients had symptoms in other joints as well as in the hip joint. All of them showed multiple articular changes on x-ray examination. There were only twenty-one patients with symptoms limited practically entirely to the hip joint; a condition called malum coxae senilis in the older nomenclature of hypertrophic arthritis. The ages of these twenty-one patients ranged between forty-four and seventy-five; all but five were over sixty years of age. All of them had followed active, and for the most part strenuous, occupations. Nine were obese. Table 3 gives the end-result data in this special group. The end-results, as one would expect in this somewhat older group with often far more extensive changes in the hip joint, were less good than in the larger group of seventy-nine. Ten of the sixteen living patients had hip joints functioning so satisfactorily that they could walk without pain.

Conclusions drawn from the data gathered in the study of these seventy-nine patients must necessarily be of a general character since not

one form of therapy, but many, were used in an attempt to keep pace with the changing concepts in hypertrophic arthritis. For this reason comparisons cannot readily be made with earlier studies where but one form of therapy was applied for what was then considered to be a local disease of the hip joint. Then too, none of the early reports followed the patients for long periods of time, so that later changes were not usually observed and no attempt was made to evaluate the quiescent arthritic disabilities in the presence of the infirmities of old age.

TABLE 3

		Men	Women
Improved		6	4
Condition the same		2	2
Worse	Tabetic	1	
	Severe myocarditis	1	
Dead	Carcinoma of cervix		1
	Angina pectoris		1
	Myocarditis	1	
	Bronchopneumonia		1
Not found			1
		11	10

When the etiology of hypertrophic arthritis is definitely established, perhaps our treatment of its disabilities in the hip joint, as well as in other joints, will be more rapid and certain. Our present clinical and pathological studies suggest a multiple etiology[20] with structural changes which seem to partake more of a degenerative[21] than of an infectious process. We must believe that infections play some part in the disease in certain individuals, but in the patients studied this seemed to become evident only after the disease was well established. While lesions similar to hypertrophic arthritis have been produced by interference with the circulation to joints, we cannot establish a definite relationship between local circulatory changes and hypertrophic arthritis[22]. Articular lesions, either surgical or from external trauma[23], have produced somewhat similar changes. But here again our evidence is not conclusive. Again, what rôle the endocrine glands, or their involution, play in the development of this disease is still conjectural[24].

With the development of these suggestions of the causes of hypertrophic arthritis it is not strange that therapy which in the past was almost wholly local and often surgical[26], in those advanced cases which came for treatment, has become general and for the most part conservative. Surgery, as Brackett[27] stated almost two decades ago, has a very limited application in hypertrophic arthritis and that only in the exceptional case. Further progress should give us new help. With our present knowledge, which we must admit is inadequate, we are able to relieve the greater number of these individuals as this study shows.

CONCLUSION

Hypertrophic arthritis of the hip was not found as a disease of the hip alone; other articulations and tissues showed changes on more complete examination. A study of the histories of the patients in this series suggested the interaction of both local and systemic etiologic factors, such as trauma, faulty posture, disordered intestinal function, infections and endocrine disturbances. Data of the end-results showed that progressive deterioration was not necessarily the usual course, even in the aged, when therapy and supervision were continued for a long period of time. Treatment which changed steadily with the increase in our knowledge of this condition was able to relieve the pain and disability in the majority of these patients.

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A CASE OF MULTIPLE CONGENITAL ANOMALIES OF THE MULLERIAN AND GENITO-URINARY SYSTEMS WITH ABSENCE OF THE COCCYX*

BY JOHN L. NEWELL, M.D.†

THE reasons for reporting this case are two-fold: first, it represents a rare developmental anomaly of the Müllerian system associated with multiple other anomalies; secondly, the symptomatology is exactly explained by the operative findings.

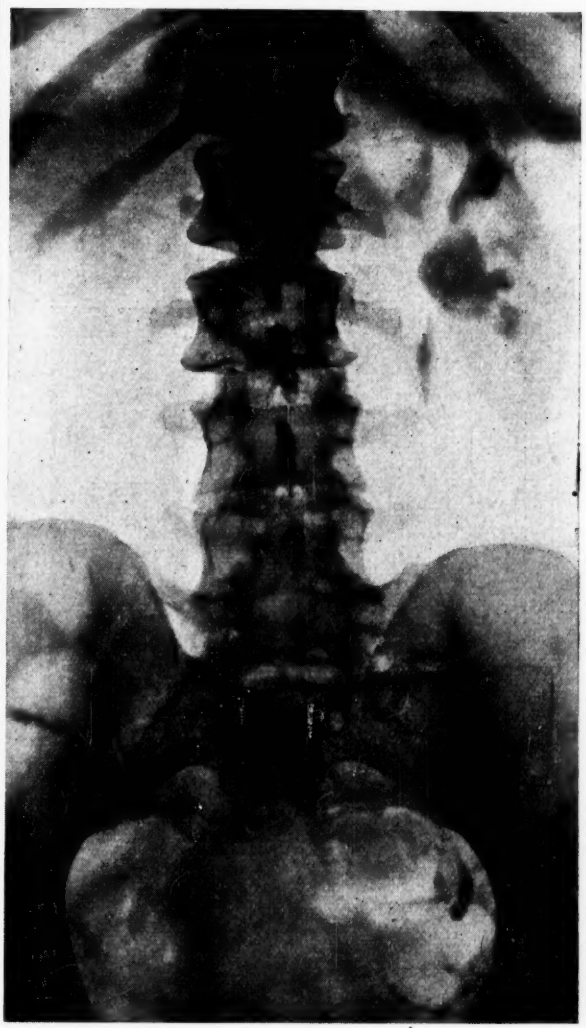
The patient, a 26-year-old nulliparous housewife, was referred to the Free Hospital for Women in May, 1933, because of fecal incontinence. On admission the complaints were inability to control escape of gas and feces and pain in the lower right side of the abdomen. The fecal incontinence had been present since birth. The pain was first noticed soon after the menarche as an inconstant dull ache. During the next ten years it was never of sufficient intensity to interfere wtih routine activities, but it had been definitely more severe since marriage. For ten months prior to entry the pain had been sharper and, on occasions, cramplike, lasting two to three minutes. These attacks of cramplike pain had a clear relation to the catamenia, beginning the day before and lasting throughout the period.

On physical examination the patient was a well-developed and well-nourished female. The head, neck, chest, extremities and reflexes were normal. The abdomen was soft but there was distinct localized tenderness in the right lower quadrant. No masses were felt. Pelvic examination disclosed a thin rectovaginal septum and complete absence of the perineal body. The anal orifice was relaxed and no sphincter action could be elicited. The vulva and vagina were otherwise normal. The cervix was small, as was the fundus, which was in left lateral version and in the second degree of retroversion. Nothing could be felt in the right side of the pelvis.

Laboratory data included a negative urine, a normal leucocyte count and a normal blood sedimentation rate. Skiagrams of the gastro-intestinal tract were not remarkable. On cystoscopic examination the right ureteral orifice could not be found. Following intravenous pyelography no shadow of the pelvis of the right kidney or ureter was visible. There was no shadow of a right kidney, although the left showed clearly.

Although the cause of the abdominal pain was not determined, it was felt that the fecal incontinence was the more important complaint. A plastic operation on the anus was performed by Dr. Frank A. Pemberton. No trace of a sphincter could be identified. Convalescence was uneventful. There was some improvement in the fecal incontinence.

Four months later the patient was readmitted because of the pain described above. There was no change in the physical examination. Because of the character and persistence of the abdominal pain an exploratory coeliotomy was performed. The stomach and gall bladder were normal to palpation. The left kidney was about twice normal size but of normal configuration. No right kidney or ureter could be demonstrated. There was a well-developed band of peritoneum extending from the umbilicus to the right internal inguinal ring. The obliterated hypogastric artery formed the superior attachment of this band, the right round ligament forming its inferior free border. The cecum, with a normal-appearing appendix, lay in a pocket of peritoneum made by this band and the lateral abdominal wall. Mesial to the base of the cecum and just above the termination of the right common iliac artery was a globular rudimentary uterus unicornis about 2 cm. in diameter, which was firmly attached to the posterior parietal peritoneum by a short fibrous band. The round ligament (described above as forming the free border of an anomalous band of peritoneum) was attached to the lateral side of the uterus. A fully developed tube, 7 cm. long, having four accessory ostia, connected with the top of the uterus. In close proximity and attached to the tube by a ligament of peritoneum was a normal-appearing ovary with an active corpus luteum.



Report of intravenous urography. The right kidney does not show. The left kidney is larger than normal, but its calices, pelvis and ureter are normal. There is no evidence of function on the right side. There is some arthritis of the lumbar spine and both sacroiliac joints. The left transverse process of the fifth lumbar vertebra is sacralized. The coccyx is absent.

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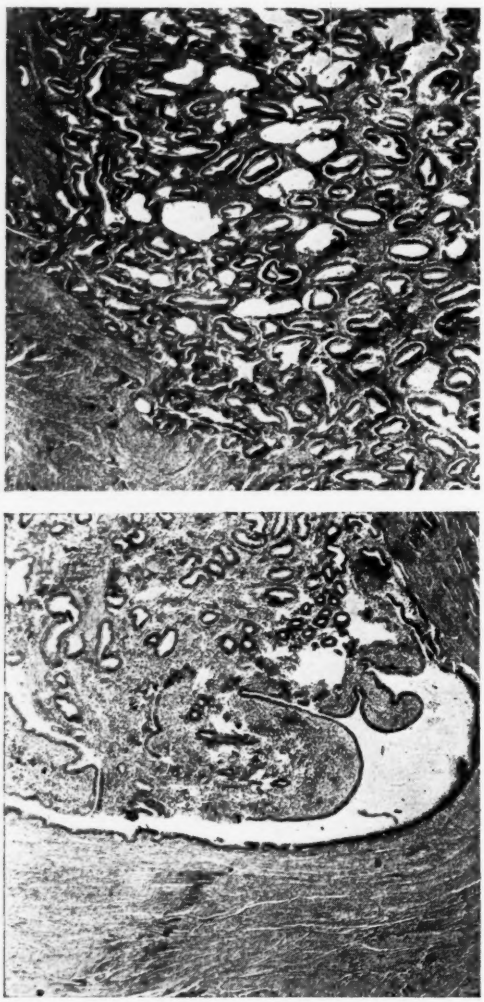
In the pelvis was a fully developed spindle-shaped uterus unicornis, in anterior position, and held in left lateral version by its round ligament, with a normal tube and ovary. The sigmoid and rectum



Photomicrographs of sections from the rudimentary uterus. There is some premenstrual proliferation of some of the glands. The dense stroma and the hyperplasia of other glands indicate dysfunction. Magnification 32 ×.

filled the right side of the pelvis. No trace of old blood or of endometriosis could be found. A right hemi-hysterectomy with salpingo-oöphorectomy and incidental appendectomy were performed.

The patient made an uneventful convalescence. Since her discharge she has been completely free of pain and has thus far had six catamenia, regular in time and amount of flow.

On section the uterus had a cavity of 1.5 cm. in diameter, which was filled entirely with endometrium, no blood being visible grossly. A pinhole opening communicating with the tube was the only channel to the peritoneal cavity. The tube was normal except for the four accessory ostia. Microscopically a section of the endometrium was moderately hyperplastic and contained only one small area of hemorrhage. The tube and ovary were normal. If the rudimentary uterus menstruated, and the appearance of the endometrium, together with the story of monthly attacks of pain would lead one to assume that it did, the menstrual blood must have passed into the peritoneal cavity via the tube. Careful examination at operation failed to disclose endometriosis or old blood. As there was no hematometra and the ultimate fate of the menstrual blood was not discovered, one would be led to conclude that the uterus did not menstruate and that the pain must have been due to local congestion.

Although a careful search of the literature of the past ten years has been made, only one case in any way comparable with this case was found, viz., that reported by Hart in 1931 in which the rudimentary uterus lay in the broad ligament of the fully developed uterus, no other anomalies being present. In the case herein reported not only was there imperfect development of the right Müllerian duct but also the rudimentary uterus was outside of the true pelvis and had no connection whatsoever with the organs of the left Müllerian duct. Furthermore, the right kidney and ureter, perineal body, anal sphincter and coccyx were absent and there was an anomalous band of peritoneum including the right round ligament and obliterated hypogastric artery.

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REPAIR OF ORBICULAR LIGAMENT AT THE ELBOW

BY FREDERIC JAY COTTON, M.D.,* AND GORDON MACKAY MORRISON, M.D.*

NOT very rarely the radial head is torn loose with rupture of the orbicular ligament. This may repair sufficiently well, with the elbow held during repair in flexion, but that is not the rule. Ordinarily, the radial head becomes or remains loose and is pulled upward by the biceps, the tendon of which is inserted on the radial tubercle just below the radial neck. Such cases call for repair.

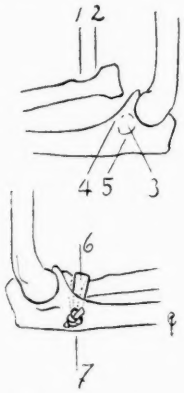
*Cotton and Morrison—For records and addresses of authors see page 817, issue of April 12, 1934.

Access to the region is easy if one sticks to the interval between supinator longus and biceps above, identifies the radial nerve and retracts it outward with the supinator. The biceps tendon is the guide to the radial neck under which lie the torn remnants of the orbicular ligament. With good luck, even after a number of weeks, one may unroll ends of the broken ligament sufficiently to suture with chromic gut. If so, good. If there is not enough left of the ligament to joint the torn ends, various operations have

been tried, apparently without consistent results.

Therefore, a case some years ago forced the contriving of a better way. It proved not only efficient, but so simple as to deserve recording.

The wound of entry was as noted above. The lesion was old, and there was no discoverable remnant of ligament.



ORBICULAR LIGAMENT.

Upper figure:—View from outer side of elbow.

1, 2. The neck of the radius about which the orbicular ligament should fit.

3. The lesser sigmoid cavity against which the radial head should rotate.

4, 5. The site of the drill holes on the radial (outer) side of the ulna.

Lower figure:—Elbow from inner side.

6. The artificial (fascial) ligament.

7. The knot tied in the ends of the fascia where they emerge from the bone. Knot secured with silk sutures.

The dotted lines indicate the course of the two ends of the fascial strip through the bone to the common hole of exit where the ends of the strip are knotted.

The radial head was readily reducible. An accessory incision was then made just to the inner side of the presenting ridge of the ulna. The flexor muscle was stripped away from the inner side of the ulna for a space. Then *from the anterior incision* a heavy drill was set on one side of the radial neck, entering as near as might be, one edge of the lesser sigmoid cavity, driven through the ulna to the inner surface against a retractor blade between the ulna and the muscle. The drill, withdrawn, was reinserted on the other side of the radial neck, and so directed as to emerge through the same point of exit from the bone as before.

The ends of a stout strip of fascia from the thigh passed across the radial neck, were then passed down on either side of the radial neck, both emerging through the same hole (widened a bit with the curette). The fascia ends, pulled on, dragged the radial head into place. They were then tied in a knot which jammed tight in the hole of exit in the tying. The square knot was then completed, the knot caught with a chromic gut stitch in the usual way, the flexor muscle pulled back to cover it, and the wounds closed.

The boy was then 11 years old. Reëxamination March 27, 1934. He is 15 years old and has a perfectly useful arm, normally developed. There is, however, some limitation of supination. Other motions were free. X-ray shows head of radius slightly distorted, apparently influenced by the pull of the encircling ligament, and the head lies a little forward, not in normal contact with its bed on the ulna. Ossification is evident and about the ligament traversing the ulna. All epiphyses are already solidly merged with the shafts.

This operation proved very simple, and very satisfactory.

We have had no chance to repeat it, oddly enough.

It is here presented as probably the simplest efficient technique, to date.

MEDICAL PROGRESS

PROGRESS IN PROCTOLOGY

BY E. PARKER HAYDEN, M.D.*

FROM a rather large number of papers on subjects pertaining to the colon and rectum, the following have been selected for review, as representing points of interest or advance in the study of this field of medicine.

HEMORRHOIDS

There are two facts with regard to the treatment of internal hemorrhoids which are not generally appreciated.

The *first* is this: that the clamp and cautery operation has been abandoned by almost all, if not all, of the men specializing in rectal surgery in this country. Excision and ligation procedures have supplanted the cautery method because of certain definite advantages which they possess, i.e., more accurate removal of the piles, better hemostasis, freedom from the added trauma of burning, a more comfortable convalescence.

The *second* fact is that the treatment of internal hemorrhoids by the injection of sclerosing solutions, although definitely not so permanently curative as an operation well done, is nevertheless a very prompt and efficient method of relieving the symptoms which internal hemorrhoids produce, bleeding and protrusions. The degree of permanency of the result varies with

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the size of the piles treated and the number and strength of the treatments given.

Fansler[1] describes a new plastic operation intended to be used in cases of prolapsed, thrombosed internal piles with perianal edema and thrombosis all around the anal outlet. It is based on the old Whitehead operation but is designed to avoid the chief objections to the Whitehead, that is, stricture and subsequent mucous membrane protrusion. Fansler incises each hemorrhoid at the junction of squamous and columnar epithelium, dissects a flap back to the outside skin, and excises all the underlying varices and thromboses, including removal of the internal pile up to normal mucous membrane above. The flaps thus created and which are attached externally, are sutured to mucous membrane, thus relining the anal canal. Healing has taken place without incident except in one case in which one flap failed to unite and had to be excised.

In view of increasing interest, on the part of medical men throughout the country, in the injection treatment of hemorrhoids and of prolapse of the rectal mucosa, a study by Rosser and Wallace[2] is timely. This investigation is a sequel to that reported by Rosser in 1931 on "Chemical Rectal Stricture" from the use of oil injection solutions.

In twenty cases with rectal occlusion from submucosal tumefactions, biopsy was secured in eight, and disclosed the swellings to be foreign body granulomas from unabsorbed oil.

Twenty-four experimental injections were then carried out in human beings and biopsy was done in all cases at varying intervals. Three oils were used, olive, mineral, and cottonseed. In six cases injected with olive oil, the rate of absorption was quite rapid, and tumor formation did not occur. The biopsies were performed in from one minute to two months after injection. Mineral oil was used in five cases, all of which developed tumefactions. Cottonseed oil was injected in thirteen cases with biopsy in from three days to ten months. Tumors did occur, but not always, and seemed to depend on the amount of oil used. Addition of phenol to the oil in certain instances seemed to make no difference in the result except that slough occurred in strengths of over ten per cent.

Rosser refers to some experiments done nine years ago by Weidman with the same oils. Multiple subcutaneous injections in two monkeys gave about the same results, viz., no tumors with olive oil, seventy-five per cent of tumors with mineral oil, twelve and a half per cent with cottonseed oil.

In patients with this sort of tumefaction obstinate constipation is the chief symptom, due to rigidity of the rectal wall.

The lesson from these experiments would seem to be clear, to stick to olive oil solutions or to non-oily injection solutions such as quinine and urea hydrochloride.

PROLAPSE

Martin[3] proposes a classification of prolapse of the rectum as follows: first degree—an invagination of the sigmoid into the upper rectum; second degree—the prolapse is visible externally but the anus has not everted; third degree—complete anorectal prolapse. These are, as the classification suggests, progressive steps in the descent of a lax lower bowel. Quite a different matter is the simple mucous membrane prolapse, often seen in children.

An operation, first suggested by Lenormant in 1907, is urged by Martin as being a permanent cure. It consists briefly in anchoring the lateral longitudinal band of the sigmoid, previously pulled taut, to the tendon or body of the psoas minor muscle exposed for several inches through a vertical incision in the overlying peritoneum. Iliacus fascia is utilized if the psoas minor is congenitally absent.

Reid[4] has utilized a simple but ingenious method of curing irreducible prolapse of the rectum, using the method in four cases, two at Peiping Union Medical College in 1925 and two since that time in Cincinnati. One end of a rubber tube of fair size is slipped into the rectum through the prolapse and anchored to the bowel at the apex of the protrusion. This serves to carry gas and feces out of the rectum and can be utilized for enemata. An elastic band is then applied so as to encircle the prolapse at the anal margin and with enough firmness and elasticity to shut off the blood supply. Care is taken to be sure that the prolapse contains no herniated small bowel, in a peritoneal sac, or bladder. After two weeks the prolapse has sloughed off and good union has taken place at the anal margin without any impairment of sphincter control.

FISTULA

Chisholm[5] sketches the views of various German authors on the etiology of anal fistula. Five are quoted as believing tuberculosis to be the basis of half or more of the cases, while one author found it in only 6.9 per cent or seventy-two cases by macroscopic and microscopic examination. Petter and Fansler, from a study of 101 cases of abscess and fistula in a tuberculosis sanatorium, concluded that tuberculous fistulae are nearly always secondary to a lesion elsewhere. These 101 cases comprised 5.8 per cent of the total patients examined. A reliable proof of tuberculosis consists in (1) exudate in guinea pig, (2) macerated tissue in guinea pig, (3) tissue section.

Several other contributions are reviewed, all of which give greater or less prominence to the factor of tuberculosis in association with fistula.

Chisholm studied 155 cases of abscess or fistula, 106 of which were negative for pulmonary tuberculosis clinically and by x-ray. Of the re-

mainder, eighteen had pulmonary tuberculosis in the arrested stage, and in thirty-one it was active. None were last stage cases. In the investigation specially raised non-tuberculous guinea pigs were used. His results were as follows:

1. In the thirty-one active cases, the tubercle bacillus was isolated from the fistula by culture and guinea pig in twenty-four cases. Only one of these had a typical pathologic picture.
2. Of the eighteen arrested cases, the bacilli were present in ten by culture and guinea pig, and three showed, histologically, giant cells and tubercles.
3. In the 106 cases clinically and roentgenologically negative, *none* showed tuberculosis by culture or guinea pig.
4. Acid fast bacilli are rarely found in smears of the fistula exudate.

Hayden[6] analyzed 388 cases of anal fistula admitted to the Massachusetts General Hospital in the years 1921 to 1930, and secured end results in 280 cases. A rate of cure of 92 per cent in complete incision and drainage operations contrasted with only 50 per cent of cures in the cases operated in other ways. There were three times as many males as females in the series. Two thirds of the patients had delayed from six months to eighteen years before coming to the hospital. Multiple internal openings of a single fistula occurred in three cases, and there were four cases of double fistula. Tuberculosis of the fistulous tract was established in only two out of eighty-one cases in which a pathological examination of the fistulous tracts had been done. There were thirty-four patients, however, who had had tuberculosis in one form or another. Also, of the thirty-seven patients who had died since their hospital admission, fifteen died of tuberculosis.

The difficulty of establishing the presence of tuberculosis in a fistulous tract merely by tissue section microscopic examination is well known, and it is undoubtedly true that all three methods of diagnosis as listed by Chisholm, should be used. I am convinced, however, that the incidence of tuberculous fistula, except in individuals with active tuberculosis elsewhere in the body, is extremely low.

STRICTURE

The "ano-rectal syndrome" of lymphogranuloma inguinale (the fourth venereal disease).

Lymphogranuloma inguinale (climatic bubo) has long been a familiar disease in the tropics, and a recognized clinical entity with subacute and chronic inguinal adenitis, suppuration, and sinus formation. The disease is acquired through intercourse, presumably due to a specific filtrable virus, with an insignificant, and often unnoticed, primary lesion on the genitalia. Glandular swelling occurs in from ten days to three weeks after exposure. Considerable attention has been directed recently toward the *ano-rectal manifestations* of this disease, though these were described in 1848 by Huguier.

DeWolf and Van Cleve[7] have summarized our present knowledge of the disease and have reported on their experimental work at Cleveland City Hospital. In 1925 Wilhelm Frei published his specific test for the disease, an intradermal inoculation of sterilized pus from the inguinal glands, giving a characteristic erythema and papule in persons who have, or have had, the disease. DeWolf and Van Cleve applied this test to 1010 people with fifty-eight positive results, using antigens prepared from eleven of these patients. Of the fifty-eight, thirty-one had active adenitis when studied, four had been treated for the disease two to four and one half years before the period of the study, twenty gave a history of persistent inguinal adenitis some time in the past twenty-five years, and three had anorectal disease without any evidence or history of inguinal adenitis. One of these three cases did have cerebrospinal syphilis, the other two were negative. The Frei test was strongly positive in all.

The authors recommend investigation of all rectal strictures from this standpoint.

Cole[8] has published more recently an article dealing especially with the relation of this disease to rectal stricture. Females are more prone to rectal involvement than males and less likely to have inguinal enlargement, due to the free lymphatic drainage distribution of the vagina to the perirectal nodes. There may develop an extensive multiple fistulous involvement of vulva, perineum, and rectum with elephantiasis of the tissues and often a stricture of the lower rectum. This condition was formerly known as the "ano-rectal syphiloma of Fournier", following Fournier's description of it in 1875, but is not due to syphilis as Fournier thought. The advent of the Frei test made it possible to definitely establish the nature of these cases, and has proved them to be an ano-rectal manifestation of lymphogranuloma inguinale. Cole reports fifteen cases with ano-rectal involvement in the past year, thirteen females and two males, twelve Negroes and three whites. All had positive Frei tests. Two of the female Negroes had extensive fistulous involvement of the vulva and perianal region, the *esthiomene* of French writers. An acute proctitis with resultant stricture formation occurs, and cauliflower-like, indurated lesions of the immediate perianal region often develop. Cole has collected, in addition, thirty-seven cases of inguinal adenitis with positive Frei tests in the past year.

Microscopically this tissue and the sections of the glands exhibit the characteristics of a gran-

uloma and are easily confused with the picture of tuberculosis and syphilis.

Treatment is not very satisfactory, though cases with adenitis have been cured by extirpation of the affected glands. On the other hand this may produce elephantiasis of the leg. Suppurating nodes should be drained. Various drugs have been tried without any convincing results. Cole advises rest in bed, free drainage, perhaps partial extirpation of nodes, and antimony and potassium tartrate intravenously. When the process is advanced, with rectal stricture, etc., no therapy can be expected to accomplish a great deal.

Martin[9] reports a study of twenty-five cases of rectal stricture in female Negroes. Application of the Frei test resulted in a positive diagnosis of lymphogranuloma inguinale in twenty cases, a very impressive result.

David and Lauer[10] have analyzed 104 cases of rectal stricture, seen at Cook County Hospital and in private practice. Nineteen were congenital and the remainder acquired. Of the acquired strictures, twenty-two were due to postoperative scarring following a variety of procedures, while thirty-three were the result of inflammatory processes of different types. Four of these were gonorrheal and three were due to *hyperplastic tuberculosis*. The latter fact is of considerable interest, since this disease occurs so much more commonly in the cecum. Eleven cases were due to tumors of the rectum and sixteen to extrarectal tumors, primary or metastatic. The remaining three cases in the series were the result of perirectal inflammatory processes, one of which was associated with Hodgkin's disease.

Among the thirty-three inflammatory strictures the authors grouped twelve as "venereal strictures ? syphilis". About 50 per cent of these had positive Wassermann reactions but none responded to antisyphilitic treatment. Sulzberger, in a subsequent communication in the J. A. M. A. suggests that these twelve cases are probably examples of lymphogranuloma inguinale, and might be so established by application of the Frei test.

HYPERPLASTIC TUBERCULOSIS OF THE COLON

Rankin and Major[11] report, from the Mayo Clinic, sixty-five cases of hyperplastic tuberculosis of the large bowel, emphasizing that this form of tuberculosis is largely a surgical problem whereas tuberculous colitis is entirely a medical one. They quote statistics of Park and Krumweide to the effect that in 59 per cent of cases under the age of five the bovine bacillus is the infecting agent. This is true in 46 per cent of cases from ages five to sixteen, and in 22 per cent of adults. The series of sixty-five cases here reported embraced thirty-seven males and twenty-eight females. There were twenty-three cases between ages twenty-one and thirty, and the incidence diminished to only two cases between sixty and seventy. One case occurred in each of the first two decades. Pain and loss of weight were prominent in 91 per cent of the cases, obstructive symptoms and diarrhea being also quite common symptoms.

Ileocolostomy was done in thirteen cases without mortality, but six died of pulmonary tuberculosis in the first year. Six others were only partially improved, leaving one case as a three-year cure.

Resection with ileocolostomy was performed in fifty cases. Four died in the first month, five in the first year (four of these had extensive generalized tuberculosis), four in the second year (one of these had extensive pulmonary disease), and one died six years later of recurrent disease in the intestine. Twelve cases were followed and found to be alive, but their condition was not definitely ascertained. *Of the remaining twenty-four cases*, one showed no improvement, two moderate gain, and seventeen were entirely well from three months to ten years.

These statistics lead the authors to the definite conclusion that resection with anastomosis is the operation of choice in hyperplastic tuberculosis of the large bowel.

ACTINOMYCOSIS

Bensaude[12] has collected from the literature twenty cases of actinomycosis primary in the anus and rectum. The lesion is essentially a perirectal thickening with abscess formation and without involvement of the mucous membrane except in the late stage of the disease when fistulae develop. Diagnosis is made from the characteristic yellow granules in the pus, as in actinomycosis elsewhere. Inguinal adenopathy is uncommon. Only one case of the twenty was cured, death in the others being caused by local spread of infection and amyloid degeneration of parenchymatous organs, with or without septicemia. Wide surgical excision is advised, if possible, otherwise simple drainage is used, augmented by the use of iodides.

RELIEF OF INTRACTABLE PAIN

A study by L. Elaut[13] of Ghent, Belgium, based on fifty anatomic dissections, should be of great interest to anyone concerned with the relief of pain in advanced and inoperable rectal cancer. Elaut demonstrated the fact that often there does not exist a definite presacral nerve but rather a plexus which follows one of several general conformations. He prefers to use the term "superior hypogastric plexus", as the plexus lies not in front of the sacrum but higher up in the lower prelumbar region, in the so-called "interiliac trigone", an inverted triangle whose base is a line across the sacral promontory and whose apex is the aortic bifurcation above. The plexus is spread out over 2 to 3 cm., above the sacral promontory. In only twelve of the

fifty cases was there found a definite single nerve trunk and then only for a distance of 1 to 2 cm. Eight cases had several parallel fibers, twenty-nine had typical plexuses, and one had an arch-shaped plexus. In about one-third of the fifty cases the fibres lay entirely over the left half of the interiliac trigone. These nerve trunks do not adhere to the peritoneum, in contrast to the ureters which are adherent, a practical point of value in dissecting this region. The plexus in every case terminates in the two hypogastric nerves which are always separate at the promontory.

Elaut advises, as an approach for neurotomy, a vertical incision directly over the bifurcation of the aorta, searching laterally for the nerves.

UNUSUAL TUMORS

Rankin and Larson[14] report four cases of myosarcoma of the rectum, a rather rare tumor. All four patients were men in the fifth and sixth decades. The chief symptoms were constipation, straining at stool, and urinary difficulties. These tumors lie close to the internal sphincter, involve the mucous membrane only late in the disease, are slow growing, metastasize late, but show a marked tendency to local recurrence.

Marino[15] describes a case of primary melanoma of the rectum. It occurred at the anal outlet, was 2 x 3 cm. in size, and resembled a thrombosed gangrenous hemorrhoid. Although a wide local excision was performed, groin metastases had already taken place, were observed six months later, and the patient died about a year after the operation. There was no local recurrence.

CARCINOMA

Lahey[16] has applied with success the so-called Mikulicz method of closure to resections of the cecum and ascending colon. This method with modifications has been in use quite generally in resections of the left colon for many years, and has undoubtedly been a large factor in the reduction of mortality from peritonitis following left colon resections. In the right colon, where anastomosis following resection has to be performed between the ileum and transverse colon, this method has never been emphasized, if indeed it has been described at all. Lahey resects with clamps and cautery, then brings the ileum and transverse colon out of the incision together, leaving clamps on the ends. If desirable to immediately open the ileum because of preoperative obstruction, he "staggers" the ileum, allowing it to protrude several inches beyond the colon end, and then ties a Mixter tube in the ileum. The cut end of the ileum with its tube can thus be laid over on the abdomen beyond the incision, reducing chance of contamination of the incision. Later the excess ileum is cut away to the level of the colon end, and the intervening spur clamped in seven to ten days. Closure of the two bowel ends is accomplished extraperitoneally in four to six weeks, with drainage of the subfascial space.

There would seem to be little doubt that this procedure is safer than any of the others used in resections of the cecum and ascending colon, although the mortality with preliminary ileocolostomy and secondary resections is also low. The method described by Lahey has the added advantage of removal of the growth at the first operation.

Raiford[17] has analyzed twenty-two cases of carcinoma of the transverse colon which comprised 7.3 per cent of 297 cases of carcinoma of the entire colon and rectum. At operation 27 per cent of the twenty-two cases showed liver involvement, and in 32 per cent the stomach was involved in the growth, either by omental lymphatic channels or by contiguity. Glands were involved in only five cases.

Eighteen cases were radically operated with six postoperative deaths—33 1/3 per cent mortality. Of these, two developed peritonitis, two pneumonia, one embolism, and one shock. There were three five-year cures, three cures under five years, two died of recurrence, and four were untraced.

Operative procedures were sketched and the twenty-two case reports presented. Of interest was the presence of achlorhydria in the majority of cases.

Rankin and Olson[18] reviewed 453 cases of carcinoma of the colon operated upon at the Mayo Clinic in the years 1907 to 1927, and attempted to evaluate factors contributing to the prognosis. Lesions of the rectum and rectosigmoid were not included. The size of the lesion at time of operation averaged about the same in the five-year cures as in the dead cases. The five-year cure rate in the right colon was 57.6 per cent as compared with 47.7 per cent in the left colon. Those cases in which the dominant direction of growth was toward the lumen of the bowel yielded 62 per cent of five-year cures as against 41 per cent in the cases where the direction of growth was mainly toward the serosa. As would be expected, the cases without involvement of neighboring glands showed a much higher five-year cure rate than those with metastases.

The degree of malignancy, according to Broders' grading, was the greatest factor in the prognosis. Both the five-year cure rate and the average postoperative life were greatest in the Grade I cases, becoming progressively less down to the Grade IV's. Nodal involvement became increasingly frequent from Grade I to Grade IV.

Emphasis was laid on the value of decompres-

sion of the colon and rehabilitation of the patient in lowering operative mortality. The average mortality of right and left colon operations at the Mayo Clinic in the past two or three years has been about 10 per cent.

Shedden[19] has collected from the literature thirty-six cases of cancer of the rectum and sigmoid in individuals under twenty years of age, and twenty-four cases between the ages twenty and thirty-five. Two cases were nine years of age. The thirty-six cases included seventeen reported by Phifer and twelve by Bernoulli, together with six other scattered ones, one of which was a Massachusetts General Hospital case. Of interest was the fact that in these young people abdominal symptoms were more prominent than the classical rectal ones, abdominal pain being most prominent. In general, the younger the patient the higher the degree of malignancy. A further analysis of the cases from various standpoints was carried out, and radical operation advocated in these as in adult cases, whenever possible. Biopsy for diagnosis is always advisable.

Gordon-Watson[20], reviewing his experience of 200 applications of radium for carcinoma of the rectum and anus, over a seven-year period, concluded that radium may be of some use in rendering operable an otherwise inoperable growth within the rectum, but that a radical operation should be performed whenever there is a reasonable chance of success. In localized epithelioma of the anus he feels that radium treatment has a definite place. The general feeling among men doing this work in our locality is that the degree and duration of pain from radium treatment of lesions in close proximity to the anal sphincter is so great that it has been abandoned in favor of surgical removal.

PECTENOSIS

Abel[21] gives a detailed and interesting sketch of the anatomy and physiology of the anal canal with particular reference to the small area lying between the true skin and the mucous membrane, and known as the pecten. This area is covered with transitional epithelium, and is the level at which there occurs, in some people, a progressive subepithelial fibrosis which produces a narrow "wedding ring" contraction known as a pecten band, and creates a condition to which the term pectenosis was first applied by W. E. Miles in 1918. This condition may exist alone, as a progressive contraction, but is often associated with fissure. The operation of pectenotomy consists in dividing this band in the right posterior quadrant, a procedure destined to provide relief of the resulting obstinate constipation, and to bring about healing of a fissure if present. For some reason the band does not seem to reform, as one would expect. The end result of the operation is a very normal anal outlet and a return of normal defecation.

AMEBIASIS

Interest in this disease has received new stimulus as a result of the epidemic in Chicago during the summer of 1933, and as would be expected there have appeared various reports of cases in scattered localities as an aftermath of this epidemic.

Bundesen, Rawlings, and Fishbein[22] described the Chicago situation with a report of 185 cases, nineteen deaths, and 193 carriers of Endamoeba histolytica detected from August to November, 1933. They emphasize the mildness of symptomatology in some cases, the persistence of the amoebae for long periods of time in carriers, necessitating careful isolation and repeated routine check-ups by stool culture. Organisms may disappear only to reappear after some months. Two of the carriers had been proved as such in a previous epidemic in 1927. The authors also point out that the disease is present constantly even in the more northern zones, as shown by a survey in 1929 by Williams and Geiger who found twenty-seven carriers and two active infections among 148 food handlers studied.

A comprehensive review[23] of the disease in respect to etiology, symptoms, and diagnosis and treatment appeared in the same number of the J. A. M. A.

Charles C. Lund[24] reported four fatal cases among a group of six lumbermen who were members of a committee at a convention in Chicago. In only one was specific therapy given and even then the diagnosis was made too late to prevent a fatal issue. All lived in different parts of the country. Two were operated upon with a diagnosis of appendicitis.

A fatal case was reported by Scannell[25] from Boston, operated upon with x-ray diagnosis of carcinoma of colon.

McKittrick[26] reported a case with liver abscess diagnosed by him about six months after exposure to infection in Chicago, and previously operated upon elsewhere with drainage of a subphrenic abscess of undetermined origin.

Ikeda[27] presents careful observations on nine cases picked up in one hospital in St. Paul, and all traceable to Chicago. He emphasizes the variety of symptoms and difficulty of laboratory diagnosis.

VENEREAL INFECTIONS

Rosser[28] has discussed this subject in a concise but thorough manner. He finds primary chancre of the anus rather uncommon, but has seen three cases, shallow ulcers at the anal margin, one with condylomata overgrowing it. He quotes Martin as having reported twenty proved cases. Mucous patches do occur in the rectum in secondary syphilis, but tertiary lesions are quite uncommon. Chancroid occurs with reasonable frequency, usually as multiple lesions. Rosser had seen ten cases since 1925. Gonorrhea is

quite common, especially in the female, and is prolonged as a cryptitis. Irrigations as in urethritis, and ablation of the crypts after the acute stage, will usually clear up the infection.

CHRONIC ULCERATIVE COLITIS

The etiology of idiopathic or chronic ulcerative colitis is still decidedly unsettled. Bargen, with Buie[29], presents further evidence in support of his conviction that the diplostreptococcus described by him several years ago is a factor in the production of most cases of this disease. His figures and methods are impressive. He reports the isolation of 815 strains of the organism from 1100 patients with the disease. Into 1000 rabbits were injected 500 strains, producing lesions, resembling the disease in man, in 65 per cent of the rabbits. He has isolated the organism from blood culture in eight patients who were seriously ill with the disease. In addition, the organism has been recovered from periapical dental abscesses in 148 of the patients, and injected into rabbits in each instance, reproducing the disease in 75 per cent of the animals. Further experiments of similar nature are outlined, together with a detailed description of the proctoscopic and microscopic picture at different stages in the disease.

Paulson[30] strenuously challenges Bargen's work on the basis of bacteriological criteria. He feels that Bargen's diplococci are not a definite organism but rather a phase in the development of many types of chain streptococci. In brief, Paulson feels that the disease is still "idiopathic," that B. dysenteriae may play a part in the etiology, and that the cocci in the colon probably are concerned in secondary infection of the ulcers. He emphasizes the inevitable recurrences in most cases, under any mode of treatment, the lack of any specific therapy, and urges that ileostomy, when indicated, be performed earlier than is often the custom. Primarily, however, the disease is a problem for careful medical treatment.

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CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
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CASE 20231

PRESENTATION OF CASE

A sixty-eight year old New England farmer entered the hospital complaining of swelling of both legs and indigestion of ten days' duration.

The patient had been well until a year before admission, when he gradually began to lose weight in spite of a good appetite and restful sleep. Five weeks before entry he noticed gradual development of diarrhea associated with severe abdominal cramps. He had about eight bowel movements on the first day. The diarrhea was not watery but merely soft unformed light-colored stools. There was no blood or mucus. With the onset of the diarrhea he suddenly became aware of the fact that his eyes and skin were yellow. This color did not increase in intensity and was not associated with itching. At the same time he noticed that his urine was mahogany colored. About ten days before entry a physician gave him some pills and other medicines which stopped his diarrhea and changed the color of his stools from a very light color to dark purplish black. At that time he began to have "stomach trouble" characterized by constant fullness in his stomach and vomiting every night. The vomitus consisted of recently eaten food but no blood. The color was that of grape juice and had no relation to the type of food. He vomited about five times the night before admission. With the onset of fullness in his stomach he noticed swelling of his legs, more on the left than the right. The swelling gradually rose toward the knees and for the past three days had reached the hips and abdomen. There was no swelling of the arms or face. For the past three or four days he had had hiccups. He had lost about thirty pounds in the past year. His strength had been very good. He had been working until six days before entry. X-rays had been taken by his physician three weeks before entry and were negative.

His past, family and marital histories are all negative.

Physical examination showed an emaciated man with marked jaundice of the skin and sclerae. There were many small purpuric spots over the abdomen and legs. The heart was slightly enlarged to the left. The sounds were of fair quality. There was a soft systolic murmur at the apex and a harsh systolic murmur along the left border of the sternum. There was an occasional extrasystole. The blood pressure was 140/75. The lungs were resonant and contained many coarse râles scattered over both chests. The abdomen was markedly distended and tense. There was dullness in the flanks and low in the abdomen; elsewhere the abdomen was very tympanitic. The liver edge was palpable at the level of the umbilicus and very slightly tender. Because of the distention it was impossible to determine the presence or absence of irregularities. The spleen was not felt. There was marked edema of the feet, legs, genitalia, lower abdominal wall and lower back.

The temperature was 99.1°, the pulse 86, the respiration 28.

Examination of the urine showed a specific gravity of 1.016. There was a very slight trace of albumin and a four plus bile test. There were occasional hyalin and granular casts and a very rare white blood cell and red blood cell. The blood showed a red cell count of 4,000,000, a hemoglobin of 70 per cent, a white cell count of 26,000, with 94 per cent polymorphonuclears. The stools were soft, formed, brown, alkaline, and showed a four plus guaiac and a positive bile test. The Hinton test was negative. The icteric index was approximately 75, the van den Bergh 13.4 milligrams.

A gastro-intestinal series was done with considerable difficulty due to the weakened condition of the patient and the presence of ascites and fluid in the chest. During the examination of the esophagus, stomach and duodenum, the esophagus was never emptied of barium, apparently because of reflux from the stomach and a small diaphragmatic hernia. The rugae of the esophagus could not be satisfactorily examined, but on one or two of the films there were filling defects which simulated dilated veins. There was no evidence of malignancy in the esophagus, stomach or duodenum. The duodenal loop was not unusually large and there was very little evidence of enlargement of the liver, but the stomach seemed displaced toward the right by a mass in the region of the spleen. The splenic flexure, however, was moderately high in position. The hepatic flexure was in normal position. Several diverticula were seen in the region of the sigmoid. The mucosa of the colon appeared normal.

The patient was put on a high carbohydrate diet with fluids. Several abdominal taps were performed. The ascitic fluid had a specific gravity of 1.009 and contained 200 red blood cells, 1300 white blood cells and about 160 epithelial cells. Three days following admission he had a frank hemorrhage from the stomach. The ascites reaccumulated. It was believed that he

was being helped by intravenous glucose. On the ninth day he was transfused with 450 cubic centimeters of whole blood and four days later with 325 cubic centimeters. On the fourteenth day he vomited a little blood and passed a tarry stool. An abdominal paracentesis was done that day with the removal of two liters of deep yellow fluid. This was followed by an injection of four cubic centimeters of salyrgan intraperitoneally. Three days later 4000 cubic centimeters of ascitic fluid was removed. A surgical consultant did not believe operation was advisable. On the twenty-first day a narrow elongated mass was felt just above the umbilicus. It was not determined whether this mass was in the abdomen or in the abdominal wall. He continued to receive intravenous glucose but he gradually failed, vomiting small amounts of blood from time to time. The cord-like mass in the epigastrium was more prominent during the last few days of life. He died twenty-four days after admission.

X-ray Interpretation

Dr. Aubrey O. Hampton: We had difficulty in examining this patient. The thing we tried to decide was whether or not he had carcinoma of the gastro-intestinal tract, cirrhosis of the liver or cancer of the liver.

We had some evidence that the spleen might be enlarged at the examination of the stomach. There is an area in here which seems to be larger than usual. The fundus of the stomach is small and certainly not displaced toward the left; perhaps displaced toward the right. When we filled the colon, however, the splenic flexure occupied that space, and yet there is no gas at this examination. So that we had about a fifty-fifty chance of saying whether the spleen was normal or abnormal.

We found diverticula in the colon, spasm of the sigmoid, and a generally dilated colon which contained gas and a moderate amount of feces.

That was all we found; no evidence of cancer in the colon or stomach.

Then we tried to examine the esophagus with special reference to the mucosa and varicose veins, but here again we had this shadow which seemed to displace the fundus of the stomach to the right, a hernia of the stomach, and an esophagus that did not empty at all. We gave him a drink and it stayed there, part of it in the fundus, but at least the lower half of the esophagus would stay filled, so we had no opportunity to examine the mucosa.

We found a diverticulum in the middle third of the esophagus that was not in the note, but does not amount to anything—a traction diverticulum. Here is the diverticulum in relation to the arch of the aorta. The diaphragm is quite high, with fluid on both sides of the pleural cavity, and the part of the esophagus we wanted to examine was obscured by fluid, by the diaphragm and by barium.

Dr. Wyman Richardson: Was there any fluid in the chest?

Dr. Hampton: Yes. This film shows a little distortion, but it is present in one of the films we have here. Dr. Schatzki came over to help me find varices of the esophagus, but he gave it up too. There is a long shadow that looks a little like a varix. We finally decided we could not make a diagnosis of cirrhosis of the liver. All that we could say was that he had diverticulitis, diaphragmatic hernia, diverticulum of the esophagus, pleural effusion and high diaphragm.

Differential Diagnosis

Dr. Richardson: This is a very definite clinical story with progression to the inevitable ending, death. It should have a very definite answer to it, but when we come to consider the possibilities it does not appear so clear as I should like to have it. The things we have to explain in the order of occurrence are weight loss, diarrhea, jaundice, edema, vomiting, hematemesis, leukocytosis and death.

The weight loss is definite, according to the history, for a period of a year, and suggests definitely some systemic disturbance. There was no change in the man's habits. He was known to eat well. I think we must assume that he has had systemic disturbance for a year. I am thinking of neoplasm and cirrhosis of the liver.

Diarrhea, which began five weeks before admission to the hospital, was coincident with a jaundice which apparently was obstructive in type, or largely obstructive. I explain the diarrhea on the basis of some disturbance in the digestion, particularly undigested fat and particularly as associated with the jaundice. It should be noted that one brown stool was seen in the hospital here and gave a positive test for bile, but the description of that jaundice seems to me very definitely obstructive.

Edema appeared. It is a curious edema, starting in the left foot, gradually involving both feet and resulting in ascites. Although there was no clinical evidence of fluid in the chest there is some x-ray evidence of it. That edema cannot be due to cardiac disease or renal disease. So far as I can see, it must therefore be explained either on the basis of cirrhosis or some severe damage to the liver, or on the basis of some obstruction of the venous return.

The vomiting, I believe, was due to venous stasis with impaired gastric function. This was followed by the vomiting of blood, and again I think it was due to venous stasis. There may have been some gastritis, but I think no definitely ulcerative lesion will be demonstrated.

The leukocytosis should be explained, and I cannot explain it. Twenty-six thousand is a high count. I should like to have seen the smear with regard to whether there were any abnormal cells or whether the white cells were toxic, of the type seen in infection.

Finally he died. Did he die of hepatic failure? Did he die of hemorrhage? Or did he die of some gastro-intestinal disturbance such as an ileus, as the result again of venous stasis? I think he died of all three factors.

In differential diagnosis, then, the things that come up are first cirrhosis of the liver. This is an extraordinarily rapid progression for portal cirrhosis. The jaundice is intense and severe, rather sudden, and does not suggest the mild jaundice seen in portal cirrhosis. The liver is said to be big. We can possibly doubt that, as the difficulty of palpating the liver in an ascitic abdomen is very great. We shall have to assume something besides pure cirrhosis of the liver I think. Some degenerative lesion in addition to a cirrhosis which was previously present might explain the symptoms. I mean he might have a subacute yellow atrophy on top of an already damaged liver that might conceivably give this picture. Edema as the first symptom of cirrhosis of the liver is a very serious sign, but the whole story here, with marked and sudden edema, does not suggest to me subacute yellow atrophy on top of cirrhosis of the liver, although this possibility should be borne in mind. There is no history of the ingestion of any toxic material. This was the only condition that I considered other than the one I have suggested for a definite diagnosis.

I believe that this man had a venous obstruction somewhere high in the abdomen, probably associated with some sort of venous thrombosis and surely involving the portal system. I think too that he has a definite malignant lesion of some sort, some part of which will be found to involve the biliary tract. Finally I think he has aortic arteriosclerosis, simply on the basis of the harsh systolic murmur heard at the base of the heart.

Clinical Discussion

Dr. Tracy B. Mallory: Dr. Jones, you had the advantage of seeing this patient.

Dr. Chester M. Jones: I went through the same mental difficulties that Dr. Richardson has and finally arrived at a diagnosis, but I do not think I did so well as he. From the story there are only two possibilities, either cirrhosis with subacute atrophy, which clinically fitted the picture very well, or malignancy. More or less arbitrarily we decided that cancer offered no opportunity for treatment, therefore the only optimistic point of view was the possibility of cirrhosis with acute yellow atrophy and to treat the patient as if he had that. That we did. For a short time,—a week or ten days,—he improved very definitely under fairly energetic treatment for very severe liver damage.

The ascites, pleural effusion, edema, all could be explained on the basis of hepatic failure it seemed to me, because it very frequently does occur either with cirrhosis alone or cirrhosis plus acute yellow atrophy.

There were one or two findings of extreme interest. One was the finding of a good deal of blood in the stools. One also can get a strongly positive guaiac in any severe liver injury whether due to intrahepatic disease or with disease due to a lesion of the bowel. It is a little more suggestive of malignancy than of intrahepatic disease. One other finding of some interest—and I have the advantage of Dr. Richardson in that—was the color of his stools. He did have several stools that contained plenty of bile. They became more bile-stained during the first few days. There were several days when there was a good quantity of bile, a point somewhat against cancer, and it was possible that there again we were dealing with an intrahepatic jaundice rather than with one due to pure obstruction from outside.

The question as to whether there was or was not a spleen was an important one to decide, and we were not able to decide it. The evidence we had seemed more in favor of large spleen than not. There were several x-ray findings. In the presence of such a picture in most instances it is safe to say that splenomegaly is direct evidence against malignancy and strongly in favor of intrahepatic disease. I always try to make a very definite effort to convince myself whether or not there is a large spleen. In this case we were not able to make a positive finding, although the evidence was in favor of some splenic enlargement.

We felt right along, and told the family also, that he had one of two things, either cancer or some sort of intrahepatic disease, probably on the basis of an old cirrhosis. I have forgotten whether the final picture was one of a terminal hemorrhage.

There was one finding we overlooked, and as Dr. Richardson read the history it was very easy to overlook. It did not strike us as an important finding, but it should have given us the clue to the diagnosis. That was the appearance of a mass in the abdominal wall about an inch across in the vicinity of the transverse colon. At first we wondered if there was any fecal material in the transverse colon. It developed very rapidly, in a week or ten days, and toward the end it became evident that it was just under the skin.

I have forgotten what diagnosis he was discharged with, but I certainly hesitated between the two diagnoses of cancer or atrophy on top of

cirrhosis, realizing that malignancy had to be considered very strongly.

Clinical Diagnosis

Acute yellow atrophy (on old cirrhosis of the liver).

Anatomic Diagnoses

Carcinoma of intrahepatic bile ducts with metastases to the gall bladder.
Acute atrophy of the liver.
Jaundice.
Ascites.
Chronic cholecystitis.
Cholelithiasis.
Chronic fibrous peritonitis.
Perisplenitis.
Arteriolar sclerosis, slight renal.

Pathologic Discussion

Dr. Mallory: The autopsy findings here showed a rather small liver which was not nodular and on the outside, except for discoloration from bile stasis, seemed practically negative, but when we cut into it we found that the major portion of the right lobe was replaced by a mass of obvious carcinoma. This was apparently primary in the right hepatic duct just inside the liver and had spread up the periportal spaces following the ramifications of the bile ducts throughout much of the right lobe of the liver. A few strands of tumor were found in lymphatics in the gall bladder wall, but the mucosa of the gall bladder was not involved. So that I feel quite sure it is a primary carcinoma of the intrahepatic bile ducts.

There was also very extensive necrosis of the liver tissue, most marked in the immediate neighborhood but also extending throughout the entire liver. So for once we can agree with both parties. There was a considerable degree of atrophy and there was malignancy.

The mass which was felt in the abdominal wall was a peritoneal implant of the tumor on the peritoneal surface of the anterior abdominal wall tying it to the transverse colon. There were widespread peritoneal implants throughout the entire cavity and I should imagine that the ascites was directly due to them, that is, a cancerous peritonitis rather than obstructive from the liver itself.

The venae cavae appeared slightly dilated but were free from thrombi, and we found no thrombi in the iliac vessels.

A Student: Was there any fluid in the chest?

Dr. Mallory: We were restricted to the abdomen. We did not examine the chest.

Dr. Hampton: How big was the spleen?

Dr. Mallory: The spleen was extremely small, weighing only 75 grams, and I cannot explain the distortion.

Dr. Hampton: The small liver might cause the stomach to move to the right.

Dr. Arlie V. Bock: Was there a diaphragmatic hernia?

Dr. Mallory: That was not particularly obvious and we did not know that x-ray report at the time and missed it. I think it is very easy to miss a diaphragmatic hernia unless our attention is called to it.

Dr. Hampton: We have had the same thing come up before, displacement of the stomach due to large liver. I do not understand why the spleen does not enlarge if the liver is small though.

Dr. Mallory: With cirrhosis the spleen almost invariably enlarges.

Dr. Hampton: I think Dr. Schatzki has seen one patient with varices in the esophagus due to carcinoma.

Dr. Richard Schatzki: One case, not malignancy of the liver but malignancy of the stomach with glands surrounding the portal vein at its entrance to the liver, giving portal obstruction.

Dr. Mallory: In this case we were unable to demonstrate any varices in the stomach, also we were unable to find any hemorrhoids. We did not find any definite focus to account for the bleeding either by mouth or by rectum.

Dr. Jones: Was he jaundiced enough so that he could have had a diffuse mucous membrane bleeding?

Dr. Mallory: Yes.

Dr. Jones: I should like to ask one question. I think it is a very important diagnostic point in handling these cases as to whether there is or is not an enlarged spleen. I have made it a working rule that if the spleen is enlarged it is against malignancy. I should like to know what Dr. McKittrick and Dr. Bock think of that as a working rule.

Dr. Leland S. McKittrick: A palpable spleen due to cancer is exceedingly rare. Dr. Jones's point is very well taken.

Dr. Bock: That is a somewhat difficult question. If the liver is enlarged and the spleen is not palpable the chances are great that one is dealing with a cancer of the liver as opposed to a cirrhotic process.

Dr. Richardson: How about the leukocytosis?

Dr. Jones: I think that was very remarkable. I could not explain it at the time. I have forgotten whether subsequent counts were high or not. I think at times one does get a leukocytosis in acute yellow atrophy, but I am not absolutely certain of that. I do not think it follows the general rule, that in severe liver disease one gets a leukopenia.

Dr. Mallory: Certainly in some cases you find an enormous infiltration of the liver with polymorphonuclears which would almost necessitate leukocytosis.

A Physician: How often do you get an en-

larged spleen at autopsy that is not felt sometime before death?

DR. MALLORY: Fairly often.

CASE 20232

PRESENTATION OF CASE

First admission. A thirty-seven year old American postoffice clerk entered for the first time fifteen years before his fifth and last admission.

He had been seen in the Outpatient Department for six years for ulceration of several of his toes. Although his Wassermann was negative at the beginning of his Outpatient treatment he was given salvarsan, and four years later was given potassium iodide and mercury at another hospital. His right fifth toe was amputated. During his first stay in the Massachusetts General Hospital his Wassermann was strongly positive. He was discharged at the end of nine days with a diagnosis of syphilitic endarteritis.

Second admission, twelve years later.

During his stay the second and third right toes were amputated for bone necrosis. A Hinton test was negative. He was discharged at the end of a month.

History of interval. Ten and a half months after his discharge he had a gastric upset with considerable gas, nausea and slight vomiting. There was no blood in the vomitus, and no pain. About ten days before his third admission the calloused area became ulcerated and a few days later the whole foot became swollen, red and hot.

Third admission, a year after his previous discharge.

X-ray examination showed spina bifida of the sacral segments. Operation upon the leg was not felt to be indicated. He was discharged in two weeks somewhat improved.

Fourth admission, a year and a half later. The complaint at this time was return of the old pain in his right foot and leg.

He gave a history of having had a chronic mild cough for five or six years. The cough would occur about every ten minutes with the production of a white watery sputum amounting to about a cupful a day. The sputum was not foul smelling. There were no hemoptyses or night sweats.

Examination showed a pale, pasty faced man lying apathetic in bed. The left pupil was larger than the right and both were somewhat irregular. Both lungs were filled with coarse moist and sibilant râles. There were trophic ulcers of both feet. There was no evidence by x-ray of bone destruction or new bone formation.

The lesions on his feet were treated with poultices and boric packs. He was discharged in five days improved.

History of interval. Six months later, four months before his fifth admission, he began to have a poor appetite. He did not have any gas, nausea or vomiting between meals. Three weeks before admission he began to have epigastric discomfort between meals. The day before admission while riding to work he suddenly felt a sharp pain in both shoulders and had severe nausea. He went directly to the dispensary in the postoffice where he worked, and there collapsed. After vomiting his breakfast he continued to bring up brownish material which his physician called blood. He remained at home that day and continued to have severe pain in his shoulders. He noticed that his abdomen was beginning to be distended. His last bowel movement occurred the morning before admission. He was brought to the Emergency Ward by ambulance.

Fifth admission, ten months after his fourth discharge.

Physical examination showed a pale, emaciated middle-aged man. The skin was moist. The mucous membranes were pale. There was slight stiffness of the neck on flexion and lateral movements. The chest showed a costal type of breathing. There were no diaphragmatic movements. The heart sounds were of fair quality. The blood pressure was 128/108. The abdomen was scaphoid and showed marked muscle spasm. It was tympanitic throughout and showed some shifting dullness and some obliterated liver dullness. There was no tenderness.

The temperature was 101.2°. The Hinton test was positive, the Wassermann negative.

An x-ray film taken with the patient prone showed a normal kidney outline on the right. The left kidney was obscured by an artefact. When the patient assumed the upright position a large amount of gas was visualized beneath the diaphragm on both sides.

He was operated upon immediately. He failed very rapidly and died approximately an hour and a half after the operation.

DIFFERENTIAL DIAGNOSIS

DR. BETH VINCENT: It will occur to all of us after listening to this history that a perfectly logical diagnosis can be made which seems to be fairly consistent with the data given in this case. In fact it fits so well that my experience in these exercises makes me doubt the accuracy of the diagnosis. But I think we must analyze these cases and evaluate the facts as they are given.

This man was in the thirties and had been under observation in this hospital and others at various times since he was fifteen years old. He finally came in after an acute attack of apparently two days' duration. We will begin by

analyzing that attack and then see if the past history that we have available will throw any light on the condition for which he underwent an operation.

He was pretty well, because he was going to work, and then he was suddenly taken with a sharp pain in both shoulders and severe nausea. We are not told whether he had pain in the abdomen. He collapsed, was taken to a dispensary, stayed there for a while and went home. He continued to vomit and was brought to the hospital in an ambulance, I take it the next morning, apparently a very sick man at that time.

When he reached the hospital they found that he was very much emaciated. I will select the things that seem of value in this attempt at diagnosis. There is slight stiffness of the neck, a costal type of breathing, and a scaphoid abdomen with marked muscular spasm. For the first time we begin to suspect that this was an acute abdominal condition with which we were dealing. Inconsistent with this, however, is the fact that he had no tenderness. Going farther we find that there was shifting dullness, indicating fluid, an observation, by the way, which in my experience is very apt to be wrong both ways. Sometimes there is free fluid in the abdomen and we are unable to detect it on physical examination, and quite frequently we demonstrate free fluid that proves not to be there when we open the abdomen. Therefore we will take this for what it is worth. He has free fluid, the abdomen is tympanitic, with some shifting dullness and some obliterated liver dullness. The x-ray shows that there was a large amount of gas visualized beneath the diaphragm on both sides. Here is a very definite physical fact that we have to count on and to account for. He also had a temperature.

I think he underwent an emergency operation. The question is, what were the findings? I should suspect that they would find a peritonitis. I should suspect that the peritonitis was due to perforation somewhere along the alimentary tract. The next thing is to go over the case again and see if that diagnosis is correct and go farther and determine the character of the lesion which caused the perforation.

The fact that he had pain in the shoulders, if this is an abdominal case, would indicate that the lesion was above the umbilicus rather than below, because we know that abdominal pain high up is frequently referred to the shoulders. In the absence of any definite statement we will assume that it was an upper abdominal lesion.

What are the forms of perforation that we most commonly deal with surgically? If it is in the lower abdomen we sometimes have rupture of an enlarged cecum. The cecum is enlarged usually because we have obstruction on the left side, due often to a scirrhous cancer of the sigmoid. We have nothing, however, to indicate that the man was obstructed or had scirrhous cancer. He would not necessarily have blood in the movements. He had not the lower abdominal tenderness that we find in these cases that eventually have a ruptured cecum from distention and necrosis.

In the upper abdomen of course the things that most often cause perforation are rupture of a peptic ulcer, gastric or duodenal, or rupture of a malignant ulcer of the stomach. He had a poor appetite for several months before his entry this time. He began to have some pain between meals, which looks more like a peptic ulcer. He was emaciated when he came in, which of course would be consistent with cancer. He had the collapse with sudden onset that we see more often in rupture of an anterior wall duodenal ulcer than from any other cause. I should think so far as frequency goes it is more apt to be duodenal ulcer than anything else, although it might be cancer of the stomach.

Going into the past history to see if there is any information there to help us, we find that as a young person he came under observation for ulceration of his toes and was later found by x-ray to have spina bifida, so he probably had trophic ulcers. The Wassermann was negative at his first visit, but later it was positive; in all probability he had acquired syphilis in the meantime. I think we may assume that he had syphilis. I am at a loss to describe any syphilitic lesion of the abdomen that would give this picture of perforation. Gastric syphilis could I suppose give rise to an ulceration and perforation, but syphilis of the stomach usually results in fibrosis and deformity. People with syphilis of the stomach get very thin but have a good appetite. This man had no appetite. I am unable to suggest any syphilitic lesion with the account of this abdominal emergency.

I prefer to come to the conclusion that he did have a perforation of the alimentary tract, and as we have nothing to indicate that it took place in the esophagus, that it probably was a lesion in the upper abdomen. It could be due either to malignancy of the stomach or to gastric or duodenal ulcer. Duodenal ulcer being more common, I think I will say that he had peritonitis with perforation from duodenal ulcer.

Clinical Discussion

Dr. James C. White: We had this patient on the Circulatory Service several times. He had two types of known spinal disease to account for trophic ulcers of the type that he had had, central nervous system lues and spina bifida, both very common causes of the type of ulcer that he showed. If he had been a diabetic he might also have had very similar looking ulcers. These are the three most common causes of trophic ulcers that we have seen on the

Peripheral Vascular Service. It was very hard for us to decide which type of etiology was the cause of this ulceration at the time we saw him, although Dr. Vincent has pointed out that he probably had ulcers before he acquired syphilis, so that the primary cause must have been his spina bifida.

In treating him we amputated several toes. As in all these cases with trophic ulcer of spinal cord origin, there was no difficulty in healing. As both his legs were involved, it was very difficult to give him a good working leg. I cannot remember the anesthetic level, but the reason we could not do any adequate weight bearing amputation was because his anesthesia extended so high. We therefore had to carry him along in a palliative way and keep his feet in the best possible condition.

I did not see him at the final admission.

DR. W. JASON MIXTER: I do not think I have anything to add to what Dr. White has suggested. Here is a man who has spina bifida and who has lues. I should be more tempted to place the ulceration on the basis of his spina bifida than on the lues.

The question of operating on the spina bifida at an earlier date might be brought up. Some of these people have been operated on with some improvement, but the general run of them do not improve greatly after operation when the picture is as complicated as in this instance.

CLINICAL DIAGNOSES

Perforated duodenal ulcer.
Shock, peritonitis, ileus.

ANATOMIC DIAGNOSES

Duodenal ulcers, one perforated, one healing.
General peritonitis.
Pulmonary emphysema.
Arteriosclerosis, slight.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: At the time of autopsy unfortunately we did not know all this man's story, so we did not make any investigation of the spinal canal. The immediate cause of death was, as Dr. Vincent thought, a perforated ulcer of the anterior duodenal wall. There was a generalized peritonitis associated with it. The total amount of fluid present was estimated at 400 cubic centimeters only, so that I doubt if the shifting dullness meant anything. The duodenum also showed a kissing ulcer on the opposite side which had not as yet penetrated very deeply into the muscularis, but showed very marked scarring and fibrosis, so that between the two ulcers the duodenum was very markedly narrowed. I think that is a very adequate explanation of his malnutrition.

The rest of the autopsy showed very little that was significant except a pulmonary emphysema of unusual degree for a relatively young man. In ten more years he might well have begun to have symptoms from it.

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CRITICISMS OF THE BOSTON CITY HOSPITAL

THE Finance Commission of Boston has made recommendations for a revisal of the conduct of the Boston City Hospital as defined in a report to the Mayor and the City Council.

Three phases of the administration are criticised relating (1) to the acceptance of chronic cases, (2) the treatment of patients who are able to pay for hospitalization and (3) the admission of non-residents of Boston.

It is the opinion of the Commission that at least forty-one per cent of the patients are treated in violation of the statute which provides that the hospital was established "for the reception of persons who, by misfortune or poverty may require relief during temporary sickness".

The fear that some of the poor people of Boston may be unable to secure admission to the hospital if the present system is maintained, is expressed in this report. Although there is no intimation that the poor of Boston have been deprived of the service of the City Hospital to any great extent, the opinion that "the trustees are not justified in spending the taxpayers' money for the care of persons who are able to care for themselves" is emphasized, and the competition of this hospital with private practitioners is deprecated.

While these criticisms have a technical justification according to the statute, it should be recognized that an extensive and important service is rendered to the indigent people of Boston by the staff without any financial recompense, and further that the city profits to a great extent by the education of physicians who outside of the hospital walls serve the people of this municipality more efficiently by reason of the opportunities for study and training therein.

It is probably impossible to estimate adequately the value of this institution to the city directly and through its contributions to medical education.

Boston stands as a great center for advanced research and teaching of medicine and the city reaps a large harvest directly through the great number of people who come here because of this distinction. The reputation of the medical men here tends in no small way to keep Boston in the front rank of progressive cities. They are worthy of recognition in the way of all reasonable opportunities for caring for their patients. Abuses are suspected, and in some instances proved in hospital administrations at times in many places, and should be corrected, but fairness to the administration and the medical staff may require a just evaluation of the benefits conferred upon the city as a whole by institutions like the Boston City Hospital. Even with attention to the criticisms of the Commission, may it not be wise to strive for an amendment to the statute enacted to create the City Hospital in order that there shall be no weakening of its beneficent functions toward its patients and no interference with scientific progress?

Changes are taking place throughout the world as efforts are being made to adjust modern agencies to present-day problems, and since hospitals have contributed in large measure to medical education, a broad conception of hospital functions should underlie all attempts at reform. Dollars and cents should not obscure the great objective.

THE HANDICAPPED

THE last issue for 1933 of *The Commonhealth*, the quarterly publication of the Massachusetts Department of Public Health, concerns itself with the problems of the handicapped, composing, in effect, a symposium on the organized efforts which are being made to help this class of individuals. The handicapped, broadly defined, are those who for a variety of reasons, physi-

cal or mental, lack the equipment to meet life in open competition with their fellows. Their needs and the methods of filling them are outlined here by experts in their various fields. Thus, Eleanor E. Kelley, Supervisor of Social Service of the Department of Public Health explains what the social worker can do for the handicapped in the way of determining the type, extent and duration of the handicap and the necessary adjustments to it; Agnes Early, formerly Community Nutritionist of Lawrence outlines the nutrition program which worked out so successfully in that city; Dr. T. Duckett Jones. of the House of the Good Samaritan, explains the care of cardiac children; Caroline N. Shaw, Director of Occupational Therapy of the Robert B. Brigham Hospital contributes a paper on occupational therapy; Dr. Leon A. Allen, Superintendent of the Lakeville Sanatorium, writes on vocational guidance for the tuberculous child; Bernice W. Billings and Esther L. Trutkoff explain the object and methods of the Sheltered Workshop of the Boston Tuberculosis Association in providing training and suitable employment for patients who have been treated for tuberculosis in sanatoria or at home and have become well enough to work but are not yet strong enough to return to full-time jobs.

Somewhat the same type of help is being given by the Coöperative Workrooms, Inc., as described by Hazel Newton; Dr. Neil A. Dayton, Director of the Division of Mental Deficiency of the Department of Mental Diseases, describes the traveling school clinics for the examination of retarded children in the public schools; Dr. L. Vernon Briggs writes on the prevention of crime; Anna King, Director of Social Service of the Austen Riggs Foundation contributes an article on the maladjusted school child and his needs. Further papers are on the rest and nutrition program in the Boston Public Schools, by Dr. Clara Loitman; physical education for the handicapped, by Carl L. Schrader, of the Department of Education; vocational rehabilitation for disabled persons, by Robert O. Small, of the same Department; atypical children and their education, by Arthur B. Lord, Supervisor of Special Schools and Classes of the Department of Education; the program and its results of the Massachusetts Hospital School, by Ruth Park, and the annual census of physically handicapped children, by Margaret MacDonald, of the Department of Public Welfare. The introductory article on community care of the handicapped is contributed by Mr. Herbert C. Parsons, Executive Secretary of the Massachusetts Child Labor Committee.

The Commonhealth always furnishes valuable and stimulating reading; the number under discussion is particularly instructive, and the editor, Dr. M. Luise Diez, Director of the Division of Child Hygiene, deserves both congratulations and the heartiest support in this undertaking.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

DAVIS, LINCOLN. B.A., M.D. Harvard University Medical School 1898. F.A.C.S. Formerly, Chief of East Surgical Service, Massachusetts General Hospital. Now, President, Boston Medical Library. Consulting Surgeon, Massachusetts General Hospital. His subject is "The Objectives of Medical Progress." Page 1197. Address: 279 Beacon Street, Boston, Massachusetts.

MYERSON, ABRAHAM. M.D. Tufts College Medical School 1908. Professor of Neurology, Tufts College Medical School. Director of Research, Boston State Hospital. Visiting Neurologist, Boston City, Beth Israel and Bickur Cholim Hospitals. Address: 270 Commonwealth Avenue, Boston, Massachusetts. Associated with him is

BERLIN, DAVID D. M.D. Tufts College Medical School 1923. F.A.C.S. Assistant Professor of Anatomy, Tufts College Medical School. Surgeon to Thyroid Clinic, Beth Israel Hospital. Assistant to Visiting Surgeon, Boston City Hospital. Address: 68 Bay State Road, Boston, Massachusetts. Their subject is "A Case of Postencephalitic Parkinson's Disease Treated by Total Thyroidectomy." Page 1205.

LOONEY, J. M. A.B., M.D. Harvard University Medical School 1920. Director of Laboratories, Memorial Foundation for Neuro-Endocrine Research, Worcester State Hospital. Address: Worcester State Hospital, Worcester, Massachusetts. Associated with him is

HOSKINS, R. G. A.B., A.M., Ph.D., M.D. Johns Hopkins University School of Medicine 1920. Director of Research, Memorial Foundation for Neuro-Endocrine Research, Boston. Research Associate, Harvard Medical School. Associate, Evans Memorial. Address: Worcester State Hospital, Worcester, Massachusetts. Their subject is "The Effect of Dinitrophenol on the Metabolism as Seen in Schizophrenic Patients." Page 1206.

KUHNS, JOHN G. A.B., M.D. Johns Hopkins University School of Medicine 1924. Assistant in Orthopedic Surgery, Harvard Medical School. Assistant Orthopedic Surgeon, Children's and Robert B. Brigham Hospitals. Consulting Orthopedic Surgeon, Sturdy Memorial Hospital, Attleboro. His subject is "Hypertrophic Arthritis of the Hip. A Review of Seventy-Nine Patients." Page 1213. Address: 372 Marlborough Street, Boston, Massachusetts.

NEWELL, JOHN L. A.B., M.D. Harvard University Medical School 1930. Resident, Boston Lying-In Hospital. His subject is "A Case of

Multiple Congenital Anomalies of the Müllerian and Genito-Urinary Systems with Absence of the Coccyx." Page 1217. Address: 221 Longwood Avenue, Boston, Massachusetts.

COTTON, FREDERIC JAY, M.D., AND MORRISON, GORDON MACKAY, M.D. See page 817, issue of April 12, for records of authors. Their subject is "Repair of Orbicular Ligament at the Elbow." Page 1218.

HAYDEN, E. PARKER. A.B., M.D. Columbia University College of Physicians and Surgeons 1919. F.A.C.S. Assistant in Surgery, Harvard Medical School. Surgeon to Out-Patients and Chief of Rectal Clinic, Massachusetts General Hospital. Member of Staff of Palmer Memorial Hospital. His subject is "Progress in Proctology." Page 1219. Address: 270 Commonwealth Avenue, Boston, Massachusetts.

MISCELLANY

THE NORFOLK DISTRICT MEDICAL SOCIETY

OFFICIAL COPY OF ACCEPTED RESOLUTIONS OF THE RESOLUTIONS COMMITTEE

Whereas free and nearly free treatment privileges in municipal and endowed charitable hospitals are designed primarily for the indigent and when properly managed meet with the approval, coöperation and support of the medical profession, and

Whereas the growing extension, in such institutions, of this care and treatment to the non-indigent results in a lessened efficiency and a comparative neglect of the deserving people for whom these privileges are established, and

Whereas this recognized abuse of such medical charity often results in unwitting and unfair competition with the private physician by these supposedly charitable institutions, therefore

Be it resolved that:

1. The Norfolk District Medical Society through its Councilors urge upon the Massachusetts Medical Society the need for immediate corrective action to speedily bring relief from the aforesaid existent conditions through appropriate legislation and all other necessary measures.

2. The Norfolk District Medical Society through its proper officers and committees bring the matter at once to the attention of His Honor, the Mayor of the City of Boston, and to the proper authorities of the various charitable hospitals in greater Boston, urging that these cited abuses and impositions be discountenanced and that every effort be made to correct and eradicate them.

3. There be established in Boston by the municipality or by the coöperation of private agencies representative of the charitable hospitals, or both, a duly accredited agency or clearing house which shall investigate the financial status of all applicants for medical charity, in any and all branches, and which shall be empowered to issue suitable and certified credentials to those found worthy of gratuitous treatment.

4. Pending the establishment of this proposed agency or clearing house, each institution in question be urged to make every effort to expedite the correction of these existing abuses by the signed statement of each applicant in affirmation of the necessity for gratuitous treatment; further, to display in such a manner as to be easily read by all applicants for charitable aid, in any and all branches, a suitable sign indicating clearly that the institution, or at least that particular department, is for charity patients only and is not open to those financially able to pay a fee to a physician, and finally, should it be learned at any time that this entrance requirement has been ignored by any applicant, a penalty of the immediate termination of treatment shall be exacted.

5. Copies of this resolution be placed in the hands of neighboring district societies with the request that such societies join with the Norfolk District Medical Society in this movement to correct and eradicate the aforesaid abuses of medical charity.

Signed:

FREDERICK L. HAYES, *Chairman*,
MAURICE GERSTEIN,
DAVID HALBERSLEBEN.

April 18, 1934.

A LIBRARY OF LEGAL MEDICINE

The dedication of the George Burgess Magrath Library of Legal Medicine occurred in the Faculty Club of the Harvard Medical School, May 23, 1934.

This library is named for Dr. Magrath, medical examiner of Suffolk County, who is the first occupant of the chair of legal medicine at Harvard, established in 1932 by Mrs. Francis Gleffner Lee of Littleton, N. H., who is also the donor of the new library.

The library will have one thousand volumes of rare editions, and it is the intention of the donor that it will be the best collection of literature relating to the specialty extant.

Mrs. Lee and Dr. Conant, President of Harvard University, addressed the meeting.

OSTEOPATHS DENIED THE RIGHT TO PRACTICE SURGERY

A bill designed to confer on osteopaths the right to practice surgery within certain limitations in New York State was vetoed by Governor Lehman in the following language:

"This bill eliminates the present requirement of the Education Law that an osteopath shall not perform surgery with the use of instruments and adds a number of provisions which seem to authorize osteopaths to engage in every form of medical practice except the giving of drugs by mouth to cure disease and the performance of certain specified surgical operations," the Governor said in his veto of the bill.

"This bill is objectionable, too, because it contains vague and unintelligible language. The Department of Education states that, because of ambiguous language, it would be impossible to restrict and prevent any type of medical practice other than some types of major surgery.

"Although the proponents of the bill have argued that the intent is that surgical practice be limited to the first aid and minor surgery, no such limitations are explicitly written into the bill."

CANCER HOSPITAL FIFTY YEARS OLD

The Memorial Hospital for the Treatment of Cancer and Allied Diseases, Central Park West and 106th Street, will observe its fiftieth anniversary to-night and to-morrow. A scientific meeting will be held to-night at the Academy of Medicine, 2 East 103d Street, with Dr. John A. Hartwell, Dr. Clarence Cook Little, Dr. James B. Murphy, Dr. Robert B. Greenough and Dr. E. C. Dodds, of London, as speakers. Eleven symposia on various types of cancer will be held at the hospital to-morrow, with a dinner at the Waldorf-Astoria in the evening.—*New York Times*, May 24, 1934.

GROUP HOSPITAL INSURANCE

Governor Lehman on May 16, 1934, signed the bill which authorizes the establishment of non-profit group payments for hospital service. In connection with this New York plan, Homer Wickenden explained that the purpose is to provide hospitalization for workers on small salaries through systematic monthly payments with the added provision that workmen desirous of availing themselves of this plan authorize employers to deduct, from their pay, sums amounting to about ten dollars per year for the provision of three weeks' free hospital care of a semi-private nature, by physicians chosen by the patient. This, however, does not include the physician's charges.

Sentiment in favor of such plans seems to be growing, for about six thousand persons in Orange County, New Jersey, are receiving hospitalization under a similar plan.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR APRIL, 1934

Present indications are that the epidemic of measles reached its peak in March and is now on the decline.

Morbidity from whooping cough had its highest reported figure since 1915.

Diphtheria, pulmonary tuberculosis and tuberculosis other forms reached their lowest reported April incidence.

Typhoid fever is running considerably lower than in 1933.

The incidence of dog bites remains high.

Anterior poliomyelitis, lobar pneumonia, epidemic cerebrospinal meningitis, German measles, mumps, and chicken pox show nothing remarkable.

RARE DISEASES

Anterior poliomyelitis was reported from Lowell, 1.

Dysentery (amebic) was reported from Cambridge, 1; Worcester, 1; total, 2.

Encephalitis lethargica was reported from Boston, 1; Clinton, 1; Fall River, 1; Lawrence, 1; Marblehead, 1; Marlboro, 1; Springfield, 1; total, 7.

Cerebrospinal meningitis was reported from Boston, 1; Cheshire, 1; Conway, 1; Easthampton, 1; Holyoke, 1; Norwell, 1; Springfield, 2; Worcester, 1; total, 9.

Pellagra was reported from Nahant, 1.

Septic sore throat was reported from Belmont, 1; Boston, 11; Cambridge, 1; Chelsea, 1; Easthampton, 1; Lowell, 1; Revere, 1; Stoneham, 1; total, 18.

Tetanus was reported from Lawrence, 1; Salem, 1; total, 2.

Trachoma was reported from Cambridge, 1; Lawrence, 1; total, 2.

Trichinosis was reported from Longmeadow, 1.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

MONTHLY REPORT FOR APRIL, 1934

Disease	April 1934	April 1933	Average*
Anterior Poliomyelitis	1	—	3
Chicken Pox	1000	1209	967
Diphtheria	59	77	206
Dog Bite	654	586	503
Epidemic Cerebrospinal Meningitis	9	6	14
German Measles	70	92	416
Gonorrhea	431	388	440
Lobar Pneumonia	531	339	497
Measles	9138	1974	2991
Mumps	549	786	839
Scarlet Fever	1001	1644	1573
Syphilis	389	339	307
Tuberculosis Pulmonary	266	307	392
Tuberculosis Other Forms	32	39	53
Typhoid Fever	8	12	13
Undulant Fever	—	2	—
Whooping Cough	1634	840	879

*Average number of cases for April during the preceding five years.

THE SCHOOL OF NURSING AT SIMMONS COLLEGE

Miss Helen Wood of Newton Highlands has been appointed as Director of the School of Nursing at Simmons College, according to an announcement made by President Bancroft Beatley. The appointment coincides with a reorganization of the school from a school of Public Health Nursing to one in which emphasis is placed on the undergraduate

preparation of nurses, to meet the changing demands in the professional nursing field.

The present School of Public Health Nursing was organized in 1918, when there was a crying need for nurses prepared in this field. Through coöperation with the Massachusetts General Hospital, the Peter Bent Brigham Hospital and the Children's Hospital, students who completed the five-year program received the degree of Bachelor of Science from the college, and a diploma from the school of nursing of the hospital where they received their technical training.

It is thought now, however, that many young women who wish to combine preparation for nursing with a liberal college education, according to the Simmons plan, may desire to enter other fields than that of Public Health Nursing. In order to give the best possible undergraduate preparation to young women who may wish to do administrative work in hospitals or become teachers of nursing, as well as to meet the demands of hospitals for young women adequately prepared in these fields, the new plan has been devised. Under it, students will continue to receive technical training from the hospitals, but this will be supplemented by increased liberal college preparation, both fields of study to be supervised by the college. Upon completion of the program, which, as formerly, will require five years of study, Simmons will grant both the Bachelor of Science degree and the Diploma in Nursing. The hospitals with which the college is affiliated have shown interest in making whatever changes will give stronger professional preparation in nursing.

Work in Public Health Nursing will be continued, but this field will be considered as a graduate field open to nurses who have already received their diplomas from other nursing schools, and to a selected number of senior students in accredited schools of nursing qualified to make a satisfactory affiliation with Simmons. The direction of all instruction in Public Health Nursing will be carried on by Miss Marjory Stimson, who has served as Acting Director of the School for the past two years.

The School of Nursing itself, in its entire program, especially the undergraduate work, will be under the direction of Miss Wood, who has been a special lecturer in Nursing Education at Simmons during the past year. A graduate of Mt. Holyoke College and of the Massachusetts General Hospital School of Nursing, she received the degree of Master of Arts at Columbia University after completing special work in the field of Education. Most of her professional activities have been in the line of Nursing Education. She was Director of the School of Nursing at Washington University, St. Louis, from 1919-1923, and of the School of Nursing at the University of Rochester from 1924-1931. From 1926-1928 she was President of the New York State League of Nursing Education, and from 1931-1932 served as Acting Superintendent of Nurses at the Massachusetts General Hospital. She is a member of the National League for Nursing Education, and a representative of the American Nurses' Association on the National Committee on Grading Schools of Nursing.

LARGER AND BETTER MEDICAL MEETINGS

Certain trends in Medical Science have brought about modifications in the manner by which knowledge of medical matters is presented for discussion among doctors. In many respects these are all for the best. In certain respects, however, this is not true. Many of us remember a time when everyone knew nearly everyone else in medical Boston, what he was doing and the value of his contributions.

Boston is bigger now and in our clinics many young men and women are working on research problems. It is not to be expected that there should be such a general diffusion of knowledge of what is going on and who is projecting it as was the case twenty-five years ago. Another factor which enters the equation is the insistence of the College of Surgeons that every hospital desirous of maintaining a standardized ranking, shall hold hospital staff meetings. As a result of this the general and sectional meetings that used to attract doctors to a consideration of various topics of universal and special interest have less and less appeal and the complaint that there are too many medical meetings is very general, and is more often than any other offered as an excuse for non-attendance. When out-of-town speakers are persuaded to come to Boston to present papers they oftentimes attract a much smaller audience than their merit deserves, or than the medical prestige of the city should accord a visiting celebrity. There may come a time when the visitor's attitude will change and he may not feel it worth while to give of his best. So altogether the effect of too many small groups holding their own meetings tends to a disorganization of the local profession and a deprecation of its standards, which may foster a cliquishness that is disastrous to the morale of the profession.

Before any of these untoward results develop, may it not be possible for all societies representing the medical interests of Greater Boston to come together in a unified endeavor to present a really worth while and representative series of meetings, covering the entire field of medicine, planned for a year in advance, and conducted under the auspices of the Boston Medical Library, where many of the larger meetings are now held?

Such a plan need not interfere in any way with the routine meetings of these societies. It would only call for each one of them to put forth a special effort to present one particularly attractive program that would bring out an audience which would be truly representative of Boston's profession. It would

not be difficult to arrange such a program if enthusiastic coöperation could be secured and great benefit might result in many ways.

Such a plan has been under discussion and is about to be undertaken. It is hoped that those who see this article will take the opportunity to give the matter some consideration, so that when they are approached, later on, to secure their coöperation they will feel inclined to lend their aid.

A Committee Representing the Suffolk District Medical Society and the Boston Medical Library to Consider Coördination of Medical Society Meetings.

GEORGE P. REYNOLDS, M.D.
CHARLES F. PAINTER, M.D.

MORTALITY RATES

Telegraphic returns from 86 cities, with a total population of thirty-seven millions for the week ending May 12, indicate a mortality rate of 11.9 as against a rate of 10.8 for the corresponding week of last year. The highest rate (18.6) appears for Wilmington, Del., and the lowest (5.1) for Waterbury, Conn. The highest infant mortality rate (19.3) appears for San Antonio, Texas, and the lowest for Albany, N. Y., Duluth, Minn., Erie, Pa., Evansville, Ind., Oklahoma City, Okla., Providence, R. I., and Spokane, Wash., which reported no infant mortality.

The annual rate for 86 cities is 12.5 for the nineteen weeks of 1934, as against a rate of 11.9 for the corresponding period of the previous year.

SUMMARY OF DEATHS AND DEATH RATES (ANNUAL BASIS) FROM AUTOMOBILE ACCIDENTS PER 100,000 ESTIMATED POPULATION FOR 86 CITIES FOR CORRESPONDING PERIODS OF 1934 AND 1933.

	Week ending		First 19 weeks	
	May 12, 1934	May 13, 1933	1934	1933
Total deaths	151	150	2,976	2,624
Death rate	21.0	20.9	21.8	19.2
Deaths due to accidents in city	124	116	2,425	2,119
Death rate	17.3	16.2	17.8	15.5

—Bureau of the Census.

PAYMENT OF DOCTORS WHO TREAT INDIGENT PATIENTS

Dr. S. S. Goldwater, Hospital Commissioner of New York City, advocated the payment of doctors who treat indigent patients in hospitals, in an address before the Hospital Association of New York State, May 24, 1934.

He recommended this plan because of the serious economic conditions affecting doctors who are serving hospitals in which much time is devoted to caring for the poor.

HISTORICAL SKETCHES ON PUBLIC HEALTH PREPARED FOR THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH AND SPONSORED BY THE MASSACHUSETTS MEDICAL SOCIETY

EDWARD JENNER

BY ELEANOR J. MACDONALD, A.B.*

Old wives' tales and medical folk lore rarely pass the test of science. One by one they are discarded as knowledge advances. Occasionally, however, the ideas of simple country people regarding disease are forerunners of medical science. This was the case in regard to the tales told by dairy folk of Gloucestershire, England. They had observed that the milkmaids, who contracted a disease called cowpox from the cows, did not develop smallpox and the belief arose that individuals who had contracted the disease cowpox could never have smallpox. When we remember that most of those who had smallpox were left with a deeply-pitted skin, we can well understand whence came the inspiration for the poets of those days to write about the beauty of the milkmaid, for she alone escaped smallpox and retained what we call to-day her schoolgirl complexion.

Two years before the Declaration of Independence was signed in Philadelphia a farmer in Yetminister, England, Benjamin Jestsy, voluntarily inoculated his wife and children with matter which he obtained from the cows with this disease. Later his children were inoculated with smallpox virus and did not contract the disease. This is the first recorded experiment of our present-day vaccination, but was disregarded until thirty years later.

It was Edward Jenner who furnished conclusive proof, which is accepted until this day, that vaccination with cowpox protects against the disease smallpox. In 1762 when a lad of thirteen, Jenner heard a young country woman say, speaking of smallpox, "I cannot take that disease for I have had the cowpox." This led Jenner to wonder if voluntary inoculation with cowpox would not be a preventive of the more serious disease. He was an apprentice to the famous surgeon, John Hunter, and had even helped in his experiments. He talked the matter over with Hunter and was advised, "Don't think, try; be patient, be accurate."

On May 14, 1796, he performed his first vaccination on a country boy, James Phipps, using the matter which he obtained from the arm of a milkmaid, Sarah Nelmes. This girl had contracted the disease from a cow. On July 1 Jenner inoculated Phipps with smallpox virus and the disease did not take. Within the next two years he had tried this experiment on twenty-three cases. He prepared a paper describing his work. The idea was taken up both in Europe and America and by the year 1800 about six thousand people had been vaccinated.

In Cambridge, Massachusetts, Dr. Benjamin Water-

*Statistician, Division of Adult Hygiene, Massachusetts Department of Public Health.

house held the chair of the Hersey Professor of Theory and Practice at the Harvard Medical School. He is reported to have been the best educated physician in Massachusetts at that time, having studied in London, Edinburgh and Leyden. Dr. Woodward says of him, "Dressing always in formal broadcloth and carrying a gold-headed cane, somewhat condescending to his fellow practitioners whose knowledge he held in little esteem, contentious to a fault, with manners by no means agreeable, he was always in hot water and was eventually deprived of his professorship at the demand of all the other teachers in the school. A Jeffersonian Democrat when all his associates were Federalists, a member of the unpopular Society of Friends, a person almost universally disliked, this man of action overcoming all handicaps was nevertheless able—by hard work, persistence and the brilliancy of his intellect, to place vaccination on a firm basis in this country for which work he was honored by scientific societies both here and abroad and by the London Medical Society voted the title of the American Jenner."

Dr. Waterhouse, after hearing of Jenner's experiment, obtained the material and on July 8, 1800, vaccinated his own son Daniel, aged five. He later vaccinated his three-year-old son, a servant boy of twelve, and an infant of one. Other people asked for vaccination and he refused until he had proved that cowpox did protect against smallpox. To do this he wrote to Dr. Aspinwall, a specialist of inoculation in New York:

"I have collected everything that has been printed respecting this distemper cowpox and have been so thoroughly convinced of its importance to humanity that I have procured some of the vaccine matter and therewith inoculated seven members of my family. My desire is to confirm the doctrine by having some of them inoculated by you. I can obtain variolous matter and inoculate them privately, but I wish to do it in the most open public way possible. As I have imported a new distemper I conceive the public have a right to know exactly every step I take in it. I write therefore to inquire whether you will on philanthropic principles try the experiment of inoculating some of my children who have undergone the cowpox. If you accede to my proposal I shall consider it an experiment in which we have coöperated for the good of our fellow citizens."

Waterhouse was so unduly disliked by other physicians that they were prejudiced against anything he advocated and it was nearly two years before he was able to persuade the Board of Health of Boston of the value of vaccination. That he did persuade them is evidenced by the announcement made by this Board.

"The Board of Health for the town of Boston, are happy to have it in their power, this day, to announce to their fellow-citizens the results of one of the most complete experiments which perhaps has ever been made, to prove the efficacy of the Cow-Pox, as a preventive against the Small-Pox; and while they take the liberty to congratulate the public on this important discovery, they do earnestly recommend its introduction generally, and are confident that it will be the means of preserving the lives and adding to the happiness of millions."

In 1809 the State Legislature ordered every town, district and plantation where no Board of Health existed to choose three or more persons to supervise the inoculation of persons with cowpox. Between 1811 and 1837 there were but thirty-nine deaths from smallpox in Boston, a far different story than in the two years 1697 and 1698 when one thousand individuals of a much less populous Boston had died.

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CORRESPONDENCE

OVERHEARD, IN PASSING THE CARDIAC CLINIC—A DREAM

"Good morning, Mr. Harty, how euphyllin?"

"Compensated, Cora mine, how are Theo, Min, ol right?"

"Yes, there fine. Say, did you hear that Sy stole His' bundle?"

"No, suffering cat units, digitol doc?"

"Well, I did, and he said, 'Nothing to it,' that Sy was the victim of a fib relation."

"Where's 'Traube?"

"Oh, he's second."

"Corrigan here?"

"No, he's always slow."

"Did I tell you about Ede Ma, Mr. Harty? Her legs, water sight! Squils and Southey tubes fixed her, and now she could do an Annette Kellerman!"

"Swish—lub—dub—Here comes doc."

"Good morning, Cardiacs, Hitenshun! Before beginning the Clinic, we will join in the Cardiacs' hymn,—'Oh, let us have a thankful heart, from angry murmurs free.'"

"Righto, Nitro, doc!" (They sing.)

WM. PEARCE COUES, M.D.

NOTICE

1934 GRADUATE FORTNIGHT OF THE NEW YORK ACADEMY OF MEDICINE

The Seventh Annual Graduate Fortnight of The New York Academy of Medicine will be devoted to a consideration of Gastro-Intestinal Diseases. The Fortnight will be held October 22 to November 2.

Sixteen important hospitals of the city will present coördinated afternoon clinics and clinical demonstrations. At the evening meetings prominent clinicians from various parts of the country who are recognized authorities in their special lines of work will discuss the various aspects of the general subject.

A comprehensive exhibit of anatomical, bacteriological and pathological specimens and research material will be shown. Many of the exhibits will be demonstrated.

Among the subjects to be presented at the evening meetings and in the hospital programs will be:

General principles involved in the diagnosis of gastro-intestinal diseases—Medical, Surgical, Roentgenological
Constipation
Diarrhea
Physiology of the gastro-intestinal tract
Diseases of the pancreas, especially acute pancreatitis and its treatment
Diseases of the esophagus
Functional diseases of the stomach
Disorders of the gastro-intestinal tract in children—Infections, Management, Surgery in infants and children
Diet in relation to gastro-intestinal diseases in infancy
Clinical examination of the patient from the surgeons' and the internists' points of view
Demonstrations of diets used in treatment
Peptic ulcer — Medical discussion, Surgical discussion
Carcinoma of the stomach
Chronic lesions in the paracecal region
Acute appendicitis
Peritonitis
Gall-bladder and biliary passages — Medical discussion, Surgical discussion
Jaundice
Tumors of the colon
Diseases of the rectum, including tumors
Intestinal obstruction
Diverticulitis
Colitis, amebiasis, functional disturbances of the colon including mucous colitis
Hirschsprung's Disease
Lymphogranulomata
Clinical methods and differential diagnosis
Technique of the gastro-intestinal series
Laboratory examinations.

The profession generally is invited to attend.

A complete program and registration blank may be secured by addressing—Dr. Frederick P. Reynolds, The New York Academy of Medicine, 2 East 103d Street, New York City.

REPORT AND NOTICE OF MEETINGS

ELECTION OF DELEGATES TO THE NEW ENGLAND MEDICAL COUNCIL

At the Annual Meeting of the Connecticut State Medical Society Dr. Walter R. Steiner, President, Dr. Charles W. Comfort, Jr., Secretary, Dr. George Blumer, Dr. Daniel Sullivan and Dr. Thomas P. Murdock were elected delegates to the New England Medical Council.

AMERICAN CONGRESS OF PHYSICAL THERAPY

The thirteenth annual scientific and clinical session of the American Congress of Physical Therapy will be held in Philadelphia at the Bellevue Stratford, September 10, 11, 12, 13, 1934.

On Wednesday evening, September 12, a joint session will be held with the Philadelphia County Medical Society.

Special features will be the scientific and technical exhibits and the small group conferences. The latter have been arranged for Tuesday morning. Every specialty of medicine and surgery will be represented. The technical application of physical measures will be demonstrated. The general sessions will be taken up with symposia on cancer, arthritis, poliomyelitis, industrial surgery, etc.

Friday, September 14, has been set aside for hospital teaching clinics which will be held in the leading institutions of Philadelphia.

Send for preliminary program. Address American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

June 7—Faulkner Hospital Clinical Meeting will be held at 5 P.M.

June 7, 8, 9—Annual Meeting of the American Association for the Study of Goiter will be held in Cleveland, Ohio. For details of the program apply to Dr. J. R. Yung, Terre Haute, Ind.

June 11—American Medical Golfing Association will meet at the Mayfield Country Club in Cleveland. For details see page 1090, issue of May 17.

June 11-12—The American Proctologic Society will meet at the Hotel Cleveland, Cleveland. For information address the Secretary, Frank G. Runyeon, M.D., 1361 Perkiomen Avenue, Reading, Pa.

June 12—South End Medical Club will meet at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston, at 12 noon.

June 12—Boston Society of Anesthetists will meet at the Hotel Kenmore, Boston. For details write Dr. Philip D. Woodbridge, 605 Commonwealth Avenue, Boston.

June 12—American Heart Association will meet at 9:30 A.M. at the Cleveland Hotel, Cleveland, Ohio.

July 24-31—The IVth International Congress of Radiology will be held in Zurich under the presidency of Professor H. R. Schniz. General Secretary Dr. H. E. Walther, Gloriastrasse 14, Zurich.

August 18 - September 30—Medical Study Trip to Hungary. See page 975, issue of May 10.

September 3-6—American Public Health Association, at Pasadena, California. Dr. J. D. Dunshee, Chairman, Local Committee on Arrangements.

September 4, 5, 6—International Union Against Tuberculosis. For information address the National Tuberculosis Association, 450 Seventh Avenue, New York City.

September 10, 11, 12, and 13—American Congress on Physical Therapy. See page 1240.

October 22 - November 2—1934 Graduate Fortnight of the New York Academy of Medicine. See page 1240.

October 31 - November 2—Massachusetts State Nurses' Association, Hotel Statler, Boston. For information write Miss Helene G. Lee, R.N., 420 Boylston Street, Boston.

BOOK REVIEWS

Medicine: A Voyage of Discovery. By Josef Löbel. 334 pp. New York: Farrar & Rinehart, Inc. $3.00.

This volume is a popular account of medicine from the point of view of one who not only has a wide knowledge of the subject but is also trained in philosophy. The author is not known in this country. He writes in a pleasant style and the book is distinctly superior to certain other books of a similar character which have been published in recent years. There are, however, a number of gross mistakes in historical facts, the typography leaves a good deal to be desired, and the appearance of the book is somewhat marred by the use of the symbol of Mercury in place of the caduceus. Of local interest is a detailed account by a Berlin surgeon of an operation by Dr. Harvey Cushing at the Peter Bent Brigham Hospital, a few years ago.

Although this book can be highly recommended for its broad base and sound philosophy, with its pleasant sense of humor, one wishes that the author had been a little more careful in his historical references and that the volume had been placed with a publisher who had a more adequate sense of producing a fitting book, free from minor errors.

The Elements of Experimental Embryology. By Julian S. Huxley and G. R. De Beer. 514 pp. Cambridge: The University Press. $7.00.

This book correlates a great amount of factual material concerning embryological development in various species. Systematizing as it explains, it unfolds a beautiful pattern of meticulous organization as the reader progresses through its pages. It does for embryology what the philosopher performs with the facts of science, rescuing principles from a great mass of seemingly disorganized and unrelated experiments. This is attested by the bibliography of 36 pages which appears at the end of the book.

Proof for the deductions made by the authors is derived wholly from biological experiments. Whereas the work includes implications of the physiological, it does not answer the why and wherefore of the phenomena described in terms of specific biochemical reactions. It therefore builds a framework, the substance for the clothing of which must still be supplied.

Tissues in the early embryo tend to differentiate according to their position in response to local influences called "organisers" or groups of directing cells. In this way mosaic fields are established throughout the embryo each of which has a dominant influence in its own region and a modifying influence upon its neighbors. Because mosaic fields are not precise morphological units but overlap one another (gradient-fields) a wide variation in response may occur by changes in external and internal forces. Very young tissues are especially susceptible to changes in environment, but as the mosaic field becomes more firmly established the range of reaction lessens.

The book is written in a clear style and contains many well-chosen illustrations.

An Outline of Immunity. By W. W. C. Topley. 415 pp. Baltimore: William Wood and Company. $6.00.

This book is an excellent presentation of scientific medicine. The value of its contents lies in the various fields of immunology, tissue resistance, treatment of disease, prevention of disease, presented intelligently. There is not any rationalization, empiricism, or individualism between its covers. It is a pleasure to study the book's contents.

Anyone in the practice of medicine or surgery, fourth-year medical students, and internes can learn from this book.

It is so sound and clear, well presented and complete, that it stimulates one to combine its principles with the daily practice of medicine and surgery.

The chapters entitled, "The Application of Immunity in Treatment" and "The Application of Immunity in Diagnosis," are of great value and practical.

This book can stand on its own merits.

Treatment of the Commoner Diseases. By Lewellys F. Barker. 317 pp. Philadelphia: J. B. Lippincott Company. $3.00.

This book is based on a series of postgraduate lectures designed to bring to the general practitioner the modern methods of treatment of common ailments. One has learned to look forward to the usually brilliant writings of Dr. Barker with keen anticipation, but this book is a distinct disappointment.

Despite his qualifying statement in his preface that "I shall make no attempt to discuss fully and completely any topic whatever" it appears to the reviewer that in the face of mounting medical publications a new book requires more justification than merely the fact that it is an outgrowth of a series of lectures. The result is an extremely fragmentary work which in the long run defeats its purpose. Throughout the book there is a tendency to use a complex terminology.

There are frequent allusions to proprietary preparations using the trade name where a pharmacopeial product may be used and which in some cases have actually been rejected by the A.M.A. as being

of secret composition or unacceptable for other reasons. The book is burdened with many statements of dubious acceptability or partial or complete inaccuracy. Thus he alludes (p. 22) to the great increase in the large mononuclears in acute infectious mononucleosis without reference to the usually accepted fact that the lymphocytes are predominantly increased and any increase in monocytes is a concomitant feature.

For foreign protein shock therapy we are aware, of course, of the use of dead typhoid bacilli. The author recommends a dose "beginning with, say, 500,000,000 dead bacilli in ½ cc. of fluid, repeating the same dose in one week and at the end of the second week giving double this dose". (P. 28.) This strikingly resembles the routine practiced in typhoid immunization in which instance the organisms are injected subcutaneously or intramuscularly and the reactions are chiefly local. Any systemic reactions usually prove to be mild and unimportant. The primary intention in pursuing shock therapy is the creation of the reaction recognized as due to the foreign protein when intravenously injected. The route of injection is not specified. The dose recommended is at least ten times the usual initial dose and the augmentation of the subsequent doses is out of proportion. He also advocates the use of fresh sterilized milk without mentioning the need for removing the fat from the milk.

Cardiologists are skeptical regarding the efficacy of camphor in oil as a vasomotor stimulant. Strophanthin is advised far too frequently without sufficient stress on the potential dangers. The reviewer believes that the myth regarding nutrient enemata (other than salt solution) seems pretty well exploded. Discussing the treatment of pneumonia not many clinicians will subscribe to the following: "For the support of the heart, it is a good rule to begin the administration of small doses of digitalis on the very first day of the disease. In patients who have good hearts to begin with, ¾ grain of powdered digitalis leaf in pill form twice a day will suffice, though if the pneumonia occurs in a patient whose heart was diseased before the attack, it is wise to begin with a grain and a half of powdered leaf administered from three to five times in the 24 hours for the first two days. In addition to digitalis, 20% camphorated oil (5 or 10 cc.) should be injected into the gluteal muscle twice a day."

The statement that, "according to the type of pneumococcus found to be the cause of the pneumonia we inject a corresponding immune serum (type I, type II, or type III), giving 100 cc. every eight hours" certainly warrants correction in that there is no immune serum for type III and since the use of the concentrated sera the dose of 100 cc. is unnecessary.

The use of 1 to 3 grains of phenylhydrazine once a week in the treatment of polycythemia is essentially meaningless. If there is any disease where individualization and correlation of treatment to blood counts is essential, it is this disease. Is there any value to "15-20 drops of 1-1000 solution of adrenalin given by mouth 3 times a day" (p. 143) in bleeding gastric ulcer? In the treatment of hemorrhoids mention of the use of mineral oil is entirely omitted. Paravertebral anesthesia for gall-stone pain is hardly a procedure to recommend to general practitioners; as a matter of fact such practice must be excessively rare.

Individually estimated many of the issues raised are of minor importance but in the aggregate they tend to vitiate the value of the book and it seems incredible that it has come from the pen of this master.

Contagious Diseases. What They Are and How to Deal with Them. By W. W. Bauer. First Edition. 218 pp. New York: Alfred A. Knopf. $2.00.

This very readable book of two hundred pages gives the lay reader the facts which he or she should know, and at times may badly want to know, about the communicable diseases. Both in common sense and in scientific data it is as accurate as our present knowledge of its subject matter permits; the style is easy and frequently humorous, yet obviously the information imparted is authoritative.

The first chapter is a primer of bacteriology; from this introduction the book proceeds to a discussion of quarantine regulations and the home care of those sick with communicable disease, descriptions of these diseases and the obvious duty of prevention, both by specific immunizations, where those are possible, and by the avoidance of contacts. The question of immunization is temperately dealt with; the author has allowed no unwarranted enthusiasms to warp his judgment or prejudice the considered results of his experience. Intended for the lay individual, this book contains information which the busy practitioner himself may find of value in his daily rounds.

Brucella Infections in Animals and Man. Methods of laboratory diagnosis. By I. Forest Huddleson. 108 pp. New York: The Commonwealth Fund.

The increased recognition of undulant fever in man and the great economic importance of contagious abortion in animals is ample justification for the publication of this monograph, which deals essentially with the methods of laboratory diagnosis of the infection. The work is largely concerned with methods of serological diagnosis, although some attention is paid to the pathology of the conditions and the bacteriological features of the group. Several excellent illustrations add to the value of the paper, as does a well-chosen bibliography. For those pathologists and bacteriologists coming in contact with Brucella infections, this monograph will prove exceedingly valuable.